THE AUTOMOBILE CLUB OF THE AUTOMOBILE CLUB OF

163 FIFTH AVENU

MOTOR AGE

Vol. VIII No. 16

CHICAGO, OCTOBER 19, 1905

Ten Cents a Copy



HE car that has been consistently successful in the past can be depended upon to be even more successful in the future. Each successive model has added to the Packard record for endurance and reliability, and that unequaled smoothness of running. The latest model, the Packard "24," upon which will be concentrated every thought and every facility of the Packard factory during the coming season, has already proven itself to be the best thing we have ever turned out. On June 8th, the first car of this model made a run of three hundred miles from Detroit to Chicago in the total elapsed time of 12½ hours, the running time 11 hours, carrying from five to six passengers. After a night's rest in Chicago, the car made the return journey on the following day, June 9th. This severe test

Price, (with standard) \$4,000 f. o. b. Detroit.

of six hundred miles was made without repairs or replacements, except to tires.

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G. E. HOLMES

is President of the Holmes-Schmidt Motor Co.

Mr. Holmes evidently has a genuine distaste for the all-too-prevalent practice of reserving one's words of praise for use on tombstone inscription.

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At least so he says.

His firm has used a large number of our tires during the past season, regarding the serviceableness of which he says, in a letter dated September 21:

"As the tire problem generally troubles the automobilist more than anything else, I deem it my duty to let you know that our customers are more than pleased with Morgan & Wright tires."

As Mr. Holmes says, tire-troubles are in many cases the automobilist's greatest bugbear.

But there is no good reason why they should be.

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VOL. VIII NO. 16

CHICAGO, OCTOBER 19, 1915

\$2.00 Per Year

HEMERY CAPTURES VANDERBILT CUP



Lancia Does Remarkable Driving and Loses Race Only By Slight Accident -America's Good Showing



HEATH

1-A. Hemery in Darracq. Time: 4:36:08

HEMERY

2-Geo. Heath in Panhard. Time: 4:39:40



3—Joseph Tracy in Locomobile. Time: 4:58:26

4-V. Lancia, in a Fiat. Time: 5:00:31

NEW YORK, Oct. 14-La Belle France won the Vanderbilt cup. Uncle Sam was second, and what do you think of that? Classic Italy, with victory within her grasp, fell by the wayside, a victim to one of those strokes of ill-furtune that seem inseparable from the gamble of these contests, but pluckily persevered and finished third. The Vaterland was fourth and a bad fourth at that, let it be understood.

The American cup of automobiling will remain in France an-

J. EPH TRACY

other year. In probably the allaround fastest and most fiercely fought fight of the whole series of international motor car road races, Hemery and the Darracq evolved to-day as the winner of the trophy young W. K. Vanderbilt put up for the first time last year for the encouragement of the American sport and industry.

Great as was the driving of Hemery and Heath, and speedy and reliable as the Darracq and the Panhard proved, France's victory was not as clean cut nor was her road racing supremacy so indisputably proved as it was for the time being, when her riders finished first and second in the Vanderbilt and Bennett contests of last year and in the race over the Auvergne circuit in July.

There is a might-have-been to cloud the brilliancy of France's achievement, with an element of good luck that came from the ill luck of an opponent, who was showing her and her cars a

clean pair of heels and seemed likely to prove a runaway winner, until an unlucky collision put the best driver and the fastest automobile out of the race, at least for first place.

Lancia, of the Italian team, who had led Heath, of the French quintet by 11 minutes 7 seconds at the close of the seventh lap, just as he had led Thery, the Bennett winner, in this year's contest, when an unlucky collision with Christie befel him and robbed him of all chance of



VINCENZIO LANCIA



HEMERY EXPRESSES COMPLETE SATISFACTION BY HAND AND MOUTH AT OUTCOME OF THE RACE

first place. Up to the fatal eighth lap the Fiat driver had covered 198.1 miles at a rate of 70 miles an hour and gave an exhibition of long distance speeding, the like of which we Americans never before saw at home and Europeans had been only once before shown abroad; that, too, by the same Italian. But these collisions and the avoidance thereof are a part of the racing game, so it would be unfair to call France's victory mere luck. Justice and history, however, demand a mention of the incident and a qualification of the winner's triumph.

The victory of France, Hemery and the Darracq recorded, let us get quickly to cold facts and summarize the results. The finish in order was France, America, Italy, Germany. The Fatherland was a bad last. She was not numbered among those who completed the race and captured the first four places.

Heath, an American, of Parisian residence, last year's Vanderbilt winner, was runner up. Joe Tracy, who tried for the Bennett and failed and rode in the American trials and succeeded, was third. Lancia, despite his accident, finished the 10 laps and captured fourth.

In laps completed, an important factor of this sort of racing, in which even survivorship is an honor, France also led with 39 and an average of 7%. At this sort of recokning Italy was second, with 35 and an average of 7. Uncle Sam scored 26 with an average of 5½, Germany's four-fifths of a full team bringing up the rear with a total of 17 and an average of 4¼.

Hemery's average was 61.53 miles to the hour and 58.5 minutes to the mile; Heath's, 60.70 miles and 59.3 minutes; Tracy's, 57.07 miles and 57.07 minutes, and Lancia's, inclusive of his delay by his accident, was 56.7 miles and 63.7 minutes.

By way of comparison with the other

great road races of the year, it is to be noted that Raggio won the Florio cup with an average of 64.8 miles; Hemery, the Ardennes circuit, 62.34; Dingley, the American trial, 56.22, and Thery, the Bennett, 47.63. Heath's average last year was 52.4 miles,

The fastest laps scored by the teams were: Lancia, Italian, 23.18; Sisz, French, 24.16; Jenatzy, German, 24.23; Tracy, American, 27.40. The fastest lap in last year's contest was 24.04, scored by Tarte, of the French team.

Immediately following the race, a protest and counter protest, both in writing, were submitted to Referee Vanderbilt and Chairman Morrell. The initial one was made by a representative of the Panhard against Hemery's Darracq. The claim was that it was shod with tires which were made in England, French Dunlops being the tubes in question. The Darracq representative, Mr. Rawlinson, was evidently prepared for such a protest, for he was abundantly supplied with affidavits, setting forth that the Dunlop company had recently established a factory in France and that the tires used by Hemery were

Following the presentation of these affidavits Mr. Rawlinson protested Heath's Panhard, on the ground that its magneto was made in Germany. Later better counsels prevailed and both protests were withdrawn, leaving Hemery's title to the cup clear.

In the success of the Locomobile as a racing car, A. L. Riker as a designer and Joe Tracy as a driver, America won a triumph. To be candid, it was unexpected. With America's ill-luck in her previous efforts at international racing and the din of the beating of the European tom-toms that marked the fortnight before the race Uncle Sam had been forced

into the background in auto race calculations. Few had the courage to hint at possible success. Few hardly dared to hope for it, though there was no earthly reason why the speed of an American car, the skill of an American driver and the fortune of a game with so much of luck to it should not justify the prophets in figuring in the Yankees in the calculation. Tracy had a fast, reliable car, which he drove with judgment and skill. Had he mingled less of caution-which was only natural-with it he might have won a place even higher up in the line. Anyhow, it was proved that America could produce a car, a designer, a set of tires and a driver well fit to cope with Europe's best, and Europe now realizes this.

Another international race on Long Island next year is a certainty. If France does not see fit to or cannot under local conditions or the possible demands for a Bennett cup race, run the Vanderbilt on her soil next year, she must return the cup to the commission to be competed for in the country which won second place in the contest and donated the cup besides. If the Vanderbilt race be run abroad, those high up in A. A. A. counsels say that a new international cup will be put up to be run perpetually on American soil.

To Chairman Morrell, who has worked unselfishly for 2 months in his cheerful, business-like way, belongs the chief credit of the race being run at all and being run so well. His unfailing diplomacy, abundant good humor, inexhaustible resourcefulness and untiring hustle secured the permit of the Long Islanders for the race to be run, won the farmers to the side of the automobilists, dispelled all the obstacles as they arose day by day, laid out the perfect system for the safety of drivers and spectators and the information of the public, and resulted in one of the best managed contests in the history of international road racing.

RECORD CROWD SEES RACE

America had a new sport record set for her today and the automobile did it. There have been Queen's cup yacht racers viewed

by the living freight of 500 yachts and excursion boats. There have been great handicaps at the running tracks, championship ball games on the diamond and intercollegiate football contests on the gridiron, which have each attracted perhaps as high as 40,000 spectators. It was for the Vanderbilt cup race to draw a throng that must be estimated not by tens but hundreds of thousands. No one can more than guess at the numerical magnitude of the mighty concourse that



A FLAGMAN



grouped and crowded itself around the international automobile racing arena today. The double line encircling the entire 28-mile racing circuit practically without a break. It was jammed six or eight or ten deep along a 1/2 mile of start and 2 furlongs of home-stretch. The Jericho, East Norwich, Bull's Head, Lakeville and new Hyde Park corners contributed thousands and the Guinea woods turn, the "S" at Albertson and the hairpin near by to Lake Success had hun-

dreds of horror-seekers looking for trouble at these danger spots. Below these points the human avenue was almost unbroken, so that the racers chased through a lane of people the entire distance. Besides this, it must be remembered that but a part of the viewing crowd was afoot.

Behind them was another mighty throng. The official stand and the speculators' stands in its neighborhood held at least 5,000. There were scores, perhaps 100 other stands, erected in addition in the towns along the course. Between and behind the line of standing spectators were automobiles parked at every entering road, in every field and on every spot where squatting space could be seized or resting place hired by the curious.

Such was the amphitheater in which the gladiators of the motor fought out the battle of the speed and endurance of the thunderbolts of steel and the courage and skill of the great drivers of racing cars, drivers of the fastest and stoutest racing cars of four nations. How many spectators this open-air arena held is after all but a guess. That the world's attendance record at a sporting event was badly broken there can be no dispute. This contest, be it remembered, was waged on a course within an hour's ride of one of the great cities of the world, having a population of 3,000,000 itself and a million more at its very gates, which covered 28 miles of racing road.

Automobiledom was most conspicuous in the throng and the color of the picture was furnished, of course, by the motor cars, and furnished its thousands of followers, but the tens of thousands came from the people at large, to whom the attraction of the race was its internationality in part but more its stirring novelty, the marvelous speed flights it furnished and the danger of disaster to life and limb that hung above it. They say that Greater New York and nearby New Jersey have 10,000 automobiles. Whatever the metropolitan motor car census may be, it was all on hand to be counted, helped out by hundreds of cars that had been driven to the

course for the occasion from even so far west as Chicago; for during the past fortnight Long Island has been the Mecca of tourists from the entire country east of the Mississippi river.

All the week the motor cars had been gathering in New York and many had been seeking storage at the improvised roadside garages, in the sheds of the inns and in the barns of the farmers. The final rush, however, began on Friday afternoon. From that time until close to the hour set for the start there had been an undiminished line of cars 2 or 3 blocks long awaiting their turn to cross the ferry at Thirtyfourth stret. Hundreds sought the course beside by the two East river bridges. During the 4 hours following midnight this morning, however, the rush was the greatest. There had been ante-daylight breakfasts served at all the uptown hotels, but the majority had been making a night of it with more attention to the cafe than to the restaurant.

When these race-going streams of automobiles reached the common channel of Hoffman boulevard, Hillside avenue and the Jericho pike they formed a crowded, unbroken torchlight procession, with the illumination feature thrice magnificent because of the brilliancy of headlights and

the dazzle of gas lamps. The marching tune was the chug of the motors and the yelp of the horns. So much for the motor car contingent of the crowd.

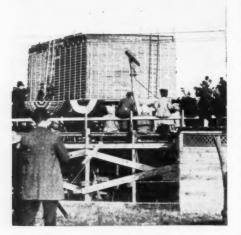
There was another contingent of racegoers from the city who went for the spectacle's sake, to gratify their sporting proclivities, to be present because a big event was on hand, or to be there to see a great international struggle, which was sure to develop wonders of speed and perhaps horrors of disaster. The trolley lines leading to the ferries and bridges were jammed with them from midnight on. They were to reach the course by the trains of the Long Island Railroad from Hunter's Point and Flatbush. There were trains scheduled to leave for Mineola at 3:35 and 5 o'clock and for Garden City at 4 o'clock. The engines pulled fifteen cars each and seats, aisles and platforms were jammed. A big suburban population of city business men is on Long Island. To a man each had taken a holiday for the day and to a boy there had been a dead grandmother or a sick sister in every family. All this vast throng headed courseward with the rest before daylight.

The farming population of Nassau county had forgotten for a week carrots, cabbages and celery. There was more money in

DETAILS OF CARS IN THE VANDERBILT CUP RACE

Car Numbe	Driver and Country	Owner	Power and Car Where Mad	Ignition	Transmis- sion and Speeds	Bore and Stroke	Wheelba*e Tread	Tires	Mechanic	Weight
	Jenatzy Germany	Robert Graves	120 Mercedes Unter-Turckheim	Low Tension Magneto	Double Chain—4	185x150 mm	115x54	Conti- nental.	Bariz	2202
	Duray France	DeDietrich Co	130 DeDietrich Luneville	Low Tension Magneto	Double Chain—4	190x150 mm	112x53	French Michelin	Frank- ville	2206
3	Dingley America	A. L. Pope	50 Pope-Toledo Toledo, O.	Battery Jump Spark	Double Chain—2	6x6 in.	100x54	Diamond	Nichols	2204
	Lancia Italy	Hollander & Tange- man	110 Fiat Turin	Magneto Make & Break	Double Chain—4	180x160 mm	112x56	Italian Michelin	Aissa	-182
5	Keene Germany	Foxhall P. Keene	90 Mercedes Unter-Turckheim	Magneto	Double Chain-4	168x145 mm	107x54	Conti- nental	Luttgen	2204
6	Wagner France	Darracq & Co.	80 Darracq Suresnies	High Tension Magneto	Shaft-3	6x6 in.	106x53	French Dunlop	Ruillet	2023
7	Tracy America	H. E. Thomas	90 Locomobile Bridgeport, Ct.	Low Tension Magneto	Double Chain—3	7¼x7¼ in.	109x54	Diamond	Poole	
8	Nazarri Italy	Hollander & Tange- man	110 Fiat, Turin	Magneto Make & Break	Double Chain—4	180x160 mm	110x56	Italian Michelin	Forg- nano	2182
9	Warden Germany	John B. Warden	120 Mercedes Unter-Turckheim	Low Tension Magneto	Double Chain—4	185x150 mm	115x54	Conti- nental	Oestrei- cher	2204
10	Sisz France	Renault Bros.	70-90 Renault Ballaincourt	Hi2h Tension Magneto	Shaft—3	150x160 mm	112x50	French Michelin	Dimie- trievitch	2202
11	Christi e America	James L. Breeze	80 Christie New York City	Battery Jump Spark	Direct Axle-2	61%x634 in.	99x37½	Diamond	Selvar	2094
12	Cedrino Italy	Hollander & Tange- man	110 Flat, Turin	Magneto Make & Break	Double Chain—4	165x185 mm	110x56	Italian Michelin	Siefest	2180
x	Campbell Germany	Samuel B. Stevens	90 Mercedes Unter-Turckheim	Low Tension Magneto	Double Chain—4	185x150 mm	115x54	Conti- nental		2219
14	Heath France	Panhard & Levassor	20 Panhard Paris,	Magneto	Shaft-3	638x6.8	110x54	French Michelin	Goubert	2219
15	Lytle America	Albert A. Pope	75 Pope-Toledo Toledo, O.	Battery Jump Spark	Double Chain—3	6x6 in.	104x56 ¹ / ₂	Diamond	Tatter- sall	2200
16	Chevrolet Italy	C. J. S. Miller	90 Fiat, Turin	Magneto Make & Break	Double Chain—4	165x165 mm	110x56	Italian Michelin	Schett- ling	2204
18	Hemery France	Darracq & Co.	80 Darracq Suresnes	High Tension Magneto	Shaft-4	6x6 in.	106x53	French Dunlop		2060
19	White America	Rollin T. White	4) White Steamer Cleveland, O.		Shaft—2			Diamond	Hantak	2180
20	Sartori Italy	Alfred G. Vanderbilt	90 Fiat, Turin, It.	Magneto Make & Break	Double Chain—3	165x185 mm	110x56	Italian Lichelin	Letrini	2192

All cars had four cylinder ${\bf m}$ tors except Lytle's and White's, which were six and two respectively. Keene, Warden, Christie, Heath and White are amateurs; the others professionals.



THE IMMENSE SCORE BOARD

letting cots at \$5 and leasing parking space in cornfields at \$20 or selling sandwiches, coffee, cider or milk by the roadside than in truck farming. The adults not busy hustling for the nickel, the dime, the dollar or the yellowback had made a night of it in the roadside taverns, or hitched up their Sunday buggies or everyday truck wagons and filled them with wives, daughters and relatives and sought early advantageous view places along the road. The small boys and the girls at home perched on the fences or made grand stands out of porches and farm wagons. Nassau county now thinks automobile racing all right and vigilance committees are now ready to visit vengeance should any miscreant throw nails or broken bottles along the course. Should there be no race next year Nasasu county will go into mourning and have as big a grudge against the automobilists for staying away as they originally had for their coming. Motor AGE last week thought the race would bring a half a million dollars into the county. In view of last night's crowding of inns and farm houses with lodgers at \$5 per, fields with cars at any old price and stomachs with all the cows, the gardens and the kitchens of the county could yield, and its tavern bars pour out, it begs to raise its guess to a mililon.

NIGHT BEFORE THE RACE

The night before the race was a night to be remembered. Over at the Garden City hotel, whose normal capacity is probably 300, there were surely treble that number accommodated; the rooms were jammed with cots and even the floor of the billiard room was pre-empted for mattresses for sleepers. In the writer's room, built for two, there were two double and two single beds and a cot in the bath room besides. In one room four women slept in one bed. There were 100 more at least who came for rooms only to get a polite smile at the desk and sat up all night in the foyer or on the porch or helped to make night hideous in the cafe. Part of the enclosed veranda was pressed into service as an emergency dining room. At the long tables one encountered tradesmen from all over the country. It was a gathering of all Yankee automobiledom. One might have thought that the hotel people had been given a contract to house all the exhibitors and attendants of a national motor car show.

There were the same crowding and the same setters up, only worse, over at Krug's near the stand and at all the hostelries along the course. Mine hosts had also leased rooms in neighboring farm houses and still there was not room.

So much for indoors. Open air camping out was universal along the course. Owners either sought squatting plans for their cars during the night and slept in them as best they could, or left their chauffeurs to keep their places and sought near by barrooms for all night entertainment.

Sleep? Nonsense! Who could sleep or who cared to sleep if he could, with so much to think of and talk of with such a momentous event but 3 or 4 hours off. By 3 o'clock the waiting throng at the Garden City hotel and in all the taverns and farm houses in the county began to hustle itself. Four o'clock breakfast was the rule. A half an hour later everybody was en route to the course.

It was a beautiful, almost balmy night—remember, sun-up time was still almost an hour away. Glorious moonlight illumined the scene. And what a scene it was in the neighborhood of the grand stand. The road was jammed with honk-honking, blazing automobiles, overloaded wagons and swarming foot passengers. Already the mile wire barrier was lined five deep. Behind stands were filling up and cars were crowding into place.

"Parking spaces here! Seats to see the race! Get your breakfast now! Only official programme of the race! Get out of

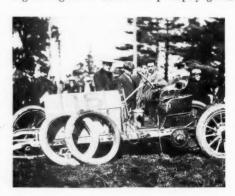
the way! Look out, there!'' could be distinguished in the combined roar of the crowd struggling a-foot, a-motor and a-wagon. Up and down the road were lights, lights, lights.

It was a riot of confusion worse confounded, made worse still by the babel of many shouting tongues of accents that smacked almost as often of Rome, Berlin and Paris as of Chicago and New York, and the start of the race was now but ½ hour away. Everyone was

determined to see all that was going on and despite its eagerness not to miss anything the crowd was a most orderly one, although somewhat hard for the deputies to handle.

LINEUP FOR START

Lancia, red-shirted and helmeted, pushed his giant Fiat through the crowd toward the tape. He was the first to arrive. His coming seemed to wake up the officials to the realization that something must be doing at once. Referee Vander-bilt was first on hand. Chairman Morrell was there, too. A word of conference with young Willie K. and Bobby set his hundred picked, broad-shouldered deputies to work. In a jiffy cars and wagons were turned back and the crowd was hustled scrambling behind the ropes. Word was phoned to close the course. The distant road cleared into a long, open lane through the waiting thousands. Near by the jam of people and vehicles had given way to the fast gathering racing cars. Each was promptly given



CHEVROLET'S CAR AFTER ITS ACCIDENT

his place in the double line with the odd number to the right and the even to the left, though it was arranged and carried out that each car should move up and start from the center of the road.

Long before this, though, the doubledecked press stand on the north side of the course had filled and so had the section of it devoted to the judges, timers and telephone officials. Each of the latter, twelve in number, sat with his receiver to his ear, his line being connected with the phone station at the seven turns and five timing stations at 5-mile intervals. Behind the 200 seats for the reporters were twelve more telephones for their use. A dozen district messenger boys were on hand to carry news copy to the telegraph office at Mineola, a 1/2 mile away, the contract of the Western Union not permitting a telegraph station to be set up anywhere except at a railroad station.

By this time the 124 boxes, forty hacking spaces and 250 original and 120 added seats of the grand stand were rapidly filling. Their occupants were about evenly divided between the social register, the millionaire automobile contingent and the leading motor car manufacturers and importers. Of course, fashion was robed in its finest furs, o'er topped by its choicest headgear confections and inlaid with the latest realizations of autumn fashion plates to be displayed later in the day, when the warming sun should permit the laying aside of wraps. Young Mrs. Willie K. was, of course, the cynosure of women's eyes, and the Duchess of Marlborough, the

THE RESULT SEEN AT A GLANCE

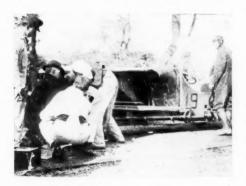
	Com-		Fastest lap
Finish Driver Car	oleted	Time	and time
1 Hemery Darracq	10	4:36:08	$(7)\ 25:24$
2 HeathPanhard	10	4:39:40	(5) 26:30
3 TracyLocomobile	10	4:58:26	(5) 27:40
4 Lancia Fiat		5:00:31	(4) 23:18
5 Sisz Darracq		4:34:07	(2) 24:19
6 Nazarri Fiat		4:51:07	(4) 24:33
7 Sartori Fiat		4:34:40	(4) 25:23
8 Warden Mercedes		4:51:23	(4) 27:13
9 Duray De Dietrich		5:35:55	(5) 25:29
10 Chevrolet Fiat	. 6	3:09:25	(2) 28:1
11 Keene Mercedes	5	2:20:33	(5) 26:23
12 Dingley Pope-Toledo		4:57:20	(2) 31:1:
13 White White		3:09:14	(3) 42:3
14 Lytle Pope-Toledo		3:15:52	(1) 29:13
15 Jenatzy Mercedes	3	1:22:06	(2) 24:3
16 Wagner Darracq	3	1:30:38	(2) 24:5
17 Christie Christie	3	2:44:13	(1) 29:3
18 CedrinoFiat	9	53:54	(1) 25:3
19 Campbell Mercedes	1	28:21	(1) 28:2
To Cumpocit Merceues		20.21	(1) 40.4

objective points of curious eyes not engrossed by the racers and the race. Behind the stand the A. C. A. had prepared a tent for breakfast and luncheon and another for the reception of women.

The grand stand was by no means an altogether bare board affair; for Chairman Morrell had seen to it that its front was draped with the colors of the four contesting countries.

It was around the racing cars now in line, however, that interest centered. Each was the center of groups of partisans and compatriots. In four tongues echoed the babel of expert advice, cheering encouragement and woman's kindly ministrations. There were suggestions, warnings, entreaties and kisses au revoir and perhaps good bye. There was something of solemnity in the final greetings, which to some extent extended to the attitude of the onlookers. There was a realization that death might come to some friend or a fatality be the outcome of a contest without dispute one rife with possibilities of mortal disaster. That death is a contingency is perhaps as great a factor toward the thrill of these races as the uneanny aspect of the racers and their pilots and the marvelous speed flights of the cars themselves.

Now the man in the moon turned off his light and the dawn, first gray, then rosy came. Phoebus gathered up the reins of his steeds for his daily race across the heavens. It was the eve of day—bright, glorious and full of promise of Indian summer balm. The racers were all lined



TIRE REPAIR ON THE WHITE

up, their drivers nervous, no doubt, but eager to have the contest on and the suspense ended. Wag, attired in an entire suit of russet leather-cap, jacket, knickerbockers and leggins in honor of the crowning moment of his career as official starter -stood mumbling for the thousandth time his newly learned and incessantly rehearsed starting count in French, which was to send off the foreigners. The spectators, no less nervous as those who wait the "play" of 'the umpire, the kick-off of the ball, or the "go" of the referee in some great combat of the diamond, the gridiron or the river, were on the qui vive for the long expected race to be on.

Jack Kerrison, of the Chronograph Club of Boston, took his stand at the head of the line, watch in hand, with Wag looking over his shoulder. Vanderbilt, Morrell, Hollander and de Turckheim flattened themselves against the stand. Down the road a long line of red flags waved.

"Dese, nuf, weat, set, sieze, sauk, cattre,

BIG ROAD RACES AND THEIR RESULTS

Race	Course	Miles	Winner	Car	Time	Av. per h.
Florio, 1905	Brescia	.311.12.	. Raggio	Itala	4 :46 :47	64.8
Vanderbilt, 190-	Long Island.	.284.4 .	.Heath	Panhard	5 :26 :45	52.4
Ardennes, 1905.	Ardennes	.372.8 .	. Hemery	Darracq	5 :58 :32 1/2	62.34
Auvergne, 1905.	Auvergne	341.4 .	.Thery	Richard-Bra	sier 7:02:42	48:50
Vanderbilt Elim	Long Island.	.113.2 .	. Dingley	Pope-Toledo	$\dots 2:00:50$	56.22
Vanderbilt, 1903	Long Island.	.283	Hemery	Darracq	4 :36 :08	62

traw, de, partay," said Wag without a slip, pumping his hand with each count. A crunch of the clutch, a puff of fire belched from the exhaust and the great tace was on.

In 18 minutes all were away but Christie, his pursuer being sent off 2 minutes behind him as per schedule. There was a hasty inquiry for the reason of his absence. There was no time for more, for who could tell how fast was to be that first mad lap and how soon the leader would loom up into sight?

"Car coming!" bawled Prunty through the megaphone.

There was a quick craning of necks up the road. Was it Jenatzy? Was it Duray? Was it Dingley? Was it Lancia?

An approaching roar, a z-z-z-zip and a motor—driven thunderbolt manned by two uncanny demons, shot by. There was but time to catch No. 1 as it shot by and was lost down the human lane. It was Jenatzy.

"Car coming!"

R-z-z-z-z-zip.

It was Lancia. He had eaten up in one short round the minute intervals that separated him from Dingley just ahead and Duray just beyond and was off in mad pursuit of the flying Dutchman, Jenatzy, who happens to be a Belgian.

The twelve telephones with Prunty's megaphone told the story of the day, the progress of the racers, the rumors of their disasters, the tales of their misfortunes. There was no let up in the interest. At intervals not greater than 2 minutes on the average the cars flashed by. But all the time Prunty's clarion voice bellowed through the pasteboard funnel the story of the race and the chalk artist put the figures of the completed laps in clapsed times on the two great bulletin boards on top of the press stand.

There was no flagging of interest, no leaving of seats. From start to finish the eyes and ears of the spectators were fixed on the race. There were cheers for favorites, groans at bulletins of collisions, and hand clappings at stories of disasters panning out mere bruises and broken cars.

There were crucial moments at the stand. Lytle had lost his mechanic. Was he killed? Keene had crashed into a telegraph pole. Was he injured? Lancia and Christie had collided? Which was killed? Was Lancia out of the race? No, he was not. He had started again. A cheer. But he was too far behind to make up lost time? He surely was. What a shame that he who had ridden so well and so well earned the cup should be robbed of it by an accident.

But who will win now? Will it be the handsome American, Heath, or the dashing Parisian, Hemery? Nine laps and Heath is at the very heels of Hemery, but

7 seconds away. But stop. Hemery has started 3 minutes back of Heath. He must beat him more than that at the finish to win.

There is an anxious, eager wait—broken broken only by Lancia madly rushing by in his fruitless chase. Then "Car coming" breaks the suspense. In an instant a car flashes by. It is No. 18. It is Hemery. France has won—and there is a bedlam of Gallic cheers and hospitable American applause as the Darracq driver slows down a bit further and takes in an official to escort him to the weighing stand.

There has been hardly time for cheers, though, for 100 yards behind him flashes another car.

"It is Heath!"

It wasn't. It was Sartori winding up his eighth lap. A few seconds more and it was Heath indeed.

A long wait and Joe Tracy flashed by in the Locomobile—the first American driver and car to finish a cup race and win a leading place in it.

"Well done, Joe!" and then a good Yankee cheer and then a rush to shake Riker by the hand.

Next came Lancia. He slowed down and rode slowly up to and across the tape and then stopped. He got the great reception he descreed. Again had the hand of fate robbed the gallant Italian of a victory within his grasp just as it had in the Bennett race 3 months before. He gesticulated wildly. They say he was not lodging a protest, but only telling in his impetuous way how it all had happened.

Spectators broke through the lines and rushed toward him. Yellow flags waved frantically. At a word from the referee the telephones told the people at all the turns and timing stations that the race was off and that the others had stopped.

For a second time today the highway



TELEPHONE STATION AT GRAND STAND

teemed with people, wagons and automobiles. An hour later farm wagons again trundled over the road and Nassau county entered again upon the humdrum of its normal existence.

When the race called off Sisz, Nazarri, Sartori, Dingley, Warden. Duray and White were still running, Dingley with three cylinders, the fourth having been plugged as an emergency repair - seven in all, in addition to the four finishers.

Of the derelicts Jenatzy was laid up at Bull's Head with a cracked cylinder, Keene had crashed into a telegraph pole, Christie had collided with Lancia, Wagner had had tire and engine troubles galore, Cedrino had skidded into a pole and bent an axle,

Campbell was stranded with a leaky gasoline tank, Lytle had had a lot of tire trouble and cracked chain and steering gear in a mix up with a dog and Chevrolet's front axle was down and out.

BATTLE BY ROUNDS

At 5 minutes before 6 o'clock Peter Prunty, announcer, tilted his megaphone at the assembled multitude and introduced a noisy cloud of yellow smoke that had just come to the tape as Jenatzy. The queer-looking Belgian may not have been nervous, but he talked in a very excited manner and gesticulated frantically all the while he waited for the word to go. Duray had his car lined up, just behind Jenatzy and he left it to shake hands with his rival. Vanderbilt and several others did the same and a big man who had no official badge of any sort broke from the ranks to wish the Mephistophelian-looking man good luck.

"I saw you win in Ireland!" he exclaimed as a sufficient justification for this action.

The excitement at the time of start was much greater than at the race of last year.

FIGURES TELLING OF THE RUNNING OF THE CUP RACE

-	1	1		t Koat 3 Mile		5		Round Miles	d				l Round Miles	1				Rout Mile	4			Fifth 1 141.5	Round Miles	
	Driver	Start	Elapsed	Miles rer Hour Elapsed	Position	Total Elapsed	Miles per Hour Total Elapsed	Elapsed Second Round	Miles per Hour Second Round	Position	Total Elapsed	Miles per Hour Total Elapsed	Elapsed Third Round	Miles per Hour Third Round	Position	Total Elapsed	Miles per Hour Total Elapse 1	Elapsed Fourth Round	Nilles per Hour Fourth Round	Position	Total Elapsed Miles Per Hour	Total Elapsed	Elapsed Fifth Round	Miles per Hour Fifth Round
1 2 3 4 5 6 7 8	Jenatzy Duray Dingley Lancia Keene Wagner Tracy Nazarri	6:00 6:01 6:02 6:03 6:04 6:05 6:06 6:07	26:26 29:44 23:49 27:21 25:56 28:14	64:22 57:10 71:28 62:08 68:11 60:14	7 17 1 8 4	47:20 54:24 49:49 56:51	60:34 55:74 71:04 62:42 68:17 59:82	28:37	56:881 54:451 72:20 62:77 68:231 59:331	11 14 1 7 14 12	1:22:06 1:21:57 3:42:33 1:10:45 1:23:05 1:30:38 1:25:27 1:44:17	62:15 22:88 72:00 61:31 56:20 59:61	25:40 2:41:43 23:25 28:41 40:49 28:36	66:15 10:49 72:51 59:19 41:55 59:37	17 1 1 9 12 10		53:18 25:96 72:21 59:49 nd en 57:73	45:26 39:02 23:18 31:05 gine to 32:11	5 37:37 2 43:50 8 a72:94 5 54:58 crouble 1 54:45	7 10 0 14 4 1 6 6 8 7	2:33:12 4:57:20 2:02:05 2:20:33 -retired 2:25:18	55:41 28:55 69:54 60:40 1. 58:43	25:29 35:45 28:02 26:23 27:40	66:63 47:49 60:57 64:35
9	Warden	6:08	27:41		9	55:07	61:61	27:26	61:89	9	1:22:30	60:28	1 1		1 1	1:49:45								
10 11 12	Sisz Christie Cedrino	6:09 6:80 6:11	58:08 25:36	68:14 29:20 66:32	3 19 6	1:28:20 54:54	38:44 63:00	30:12 28:18	56:22 1 60:00	16	Struck	31:02	1:15:53	22:37	16	1:53:27 Engine akeville	e. igr	nition	and	tir	re troub	oles -	29:18 collide	57:95 ed wit
X 14 15 16 18 19	Campbell Heath Lytle Chevrolet Hemery White		28:02 29:15 28:42 28:22 51:31	60:57 58:00 59:16 59:82 32:96	11 16 15 14 18	55:08 2:00:17 56;57 54:24 1:36:28	61:68 28:23 59:63 62:42 35:22	1:31:02 28;15 26:01 44-52	62:85 18:65 1 60:07 1 65:26 37:81 1	8 18 13 6 17	1:21:56 2:35:49 1:28:32 1-20:20 2:18:54	32:58 57:58 63:41 36:67	35;12 31:35 25:56 42:31	48:23 53:76 65:47 36:32	3 15 5 11 7 3 2 14	1:48:51 3:15:52 2:07:25 1:58:38 3:09:14	33:82 53:30 57:25 35:80	40:03 38:53 38:18 50:20	3 42:39 3 43:65 8 44:38 0 35:78	9 13 5 9 8 8 3 12	Chain 2:38:41 2:23:27 Tire t	53:50 59:18 rouble	ble—11 31:16 25:49 e first,	53:73 65:77 second
20	Sartori	6:18	27:41		10	55:11	61:54	27:30			1:22:20 Fastest	61:87		62:50	7	1:49:43	61:90	20:20	3 66:89		2:21:06 hristie c		1	

There was no actual confusion, but the nervous tension everywhere was higher and the crowd on hand was a great deal

bigger than 12 months ago.

Just on the second of 6 o'clock Jenatzy got the word to go and he got his car under way in a fashion that made it seem like a thing alive. Sixty seconds later Duray made about as good a start. Dinglev and his assistant, dressed in khaki this time instead of black leather, came to the tape, literally smiling. There was no nervousness in that car and it got away well. So it went, at 1 minute intervals, car after car being dispatched without a mishap. Every car belched forth the smoke of burning lubricants and most of them made a good getaway. Foxhall Keene, wearing a gray overcoat, such as he might in a touring car, got away in fine style. Wagner, in his Darracq, was a trifle slow. Joe Tracy, with a big orange-hued kerchief bound about his neck, did well. Nazarri immediately after starting removed both hands from the wheel and waved them, as to friends. Warden could not be seen through the smoke from his exhaust pipes. Sisz made rather a poor start. Christie was not on hand when his turn arrived and there was an interval of 2 minutes between Sisz and Cedrino.

Before Campbell, driving the Mercedes on which S. B. Stevens has chosen to carry a cross instead of No. 13, had been started the reports of Jenatzy's progress began to be shouted through the megaphone. First he was reported from the 10-mile point and next the 15-mile station. He covered the first 15 miles in a little less than 12 minutes. Campbell made a good start and so did Heath, the latter waving his hand as he swept away. Lytle drove to the tape chewing gum and looking unconcerned. Chevrolet and Hemery got away handily. Walter White caused amusement by starting very slowly and putting his hand on the emergency brake, which caused catastrophe on September 23. Sartori was on time this year and got away from the line in fine style at the word.

With nineteen cars running there was no dullness for the spectators. From 6:24:52 o'clock, when Jenatzy finished his first round, the cars kept popping by with a deafening rush at intervals of a minute or so, often only a few seconds apart.







CHEVROLET ON THE DANGEROUS S TURN

LANCIA SLIDES AROUND THE EAST NORWICH TURN

Last Round

G TIME BY ROUNDS AND MISHAPS OF ALSO RANS

Eighth Round

169.8	105.1 1111.8	SWAT MILES	201.1 /41/108	9) 11.164
Fotal Elapsed Sath Lage Miles per Hour Skith Round	T tal Elupsed Miles per Hour T tal Elapsed Elapsed Seventh Round Miles per Hour Seventh Round Postleon	Total Elapsed Miles per Hour Total Elapsed Elapsed Elapsed Elghth Round Miles per Hour Elghth Round	Total Elapsed Miles per Hour T. tal Elapsed Flapsed Ninth Round Miles per Hour Ninth Round Position	Finish Total Tone Miles per Hour Race Ela sed Last Round Miles per Hour Last Round
cylinder on third	ed. 6 5:35:55 35:38 2:36:28 10:85 9 1 round—then ran on three—b 1 1:249:32 70:08 24:92 70:68 1 third round and retired.			
	5 3:26:04 57:68 27:53 60:89 5 8 3:26:40 56:96 24:37 68:99 6	3:56:36 57:61 30:32 55:61 5 3:53:20 58:21 24:40 63:83 3	4 23:53 56:83 32:17 52:59 4 4:51:07 52:48 57:47 29:38 6	4:58:26 57:07 2.):33 57:45 R unning at finish—had ignitson frouble.
4:97 39:33 42:38	9 4:11:18 47:29 1:05:59 25:73 8	4:51:23 46:61 49:05 42:36 8	Tire trouble -running at f	
7:83 33:24 50:82 n fourth round at	4 3:24:46 53:04' 28:37 59:33 4 nd retired.	3:53:41 58:12 28:55 57:36 4	4:34:07 55:74 30:26 55:79 5	and ign ion trou- bles — running at
into dour and init	2 3:10:59 62:23 29:05 58:38 2 ir-d steering gear.		4:11:41 60:71 27:13 62:38 2	finish. 4:39:40, 60:70, 27:39, 60:67
20-20 25-29 66:63.	Broke front axle and ret re 3 3:14:20 61:16 25:24 65:82 3 der head—repaired and runni	3:39:59 61:75 25:39 66:23 1	4:08:33 61:48 28:34 50:43 1	4:36:08 61:53 27:35 61:55
55:78 41:32 49:88	7 3:56:27 50:26 53:49 31:55 7	4:34:40 49:45 38:13 44:43 7	Tire and ignition trou	bles sixth and seventh

Even before the first round was finished, it began to look like Lancia's race. It was known that he had passed Dingley before reaching the S turn at Willis avenue, and that he had passed Duray before Lakeville was reached. There was a good cheer for him when he passed the stand less than 2 minutes after Jenatzy, and it was made known that he was leading by 1 minute and 3 seconds. Next to Lancia and Jenatzy, Sisz made the best showing in this round, coming around in eighth place and being third in point of time. Wagner moved up a place by passing Keene. Dingley was passed by Lancia, Wagner and Keene and Tracy was passed by Nazarri and Sisz. Heath and Lytle each moved up a place, Hemery moved up two places and so did Sartori. A hot pace was set from the beginning. Seventeen of the nineteen starters covered the first lap in less than 30 seconds. Twelve ran it in less than 30 minutes. Twelve ran it in less than a mile a minute.

Seventh wound 193.1 Wiles

A summary of the lap, giving the names of the drivers in the order of passing the grand stand follows, the first number, at the left of the name, being the official

one and indicating the position in which the man started, while the figures at the right hand of the names tell the actual position in the race held by each because of the time he made:

No. 1, Jenatzy, second; No. 4, Lancia, first; No. 2, Duray, seventh; No. 6, Wagner, fourth; No. 5, Keene, eighth; No. 3, Dingley, seventeenth; No. 8, Nazarri, fifth; No. 10, Sisz, third; No. 7, Tracy, twelfth; No. 9, Warden, ninth; No. 12, Cedrino, sixth; No. X, Campbell, thirteenth; No. 14, Heath, eleventh; No. 15, Lytle, sixteenth; No. 16, Chevrolet, fifteenth; No. 18, Hemery, fourteenth; No. 20, Sartori, tenth; No. 11, Christie, nineteenth; No. 19, White, eighteenth.

On this lap there was a tie between Warden and Sartori for ninth place. Their clapsed time was the same, but for the sake of preserving the succession the place is given to Warden in the summary because of his prior order in passing the tape. It will be noted that the car on which Mr. Stevens preferred a cross to the number 13, finished thirteenth in this first lap and didn't come around any more.

Eleven cars had finished their first lap when Christie came rushing along and crossed the tape with a fiying start. It was actually 6:38:35 o'clock when he started, but his official time was recorded as 6:10, which was when he should have gone.

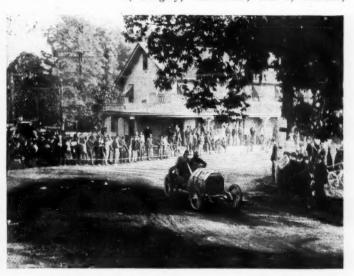
The only delay reported on the first lap was one made by White at Bull's Head because of tire trouble. There was practically a tie in the second round also. Keene's time and Hemery's were the same except that % of a second was added to Keene's time when he passed the stand lapped on Sisz. It was interesting to note that Cedrino's time for this lap, 28:18, is at just the pace of a mile a minute. At the end of the second round Jenatzy again was first to pass the start, but Lancia

followed him in 55 seconds and was shown to have a lead of 2 minutes 41/5 seconds over Sisz, who was second. In this lap Wagner passed Duray while Sisz passed Nazarri, Dingley and Keene. The biggest jump in point of actual place was made by Hemery, who moved up from fourteenth place to sixth. Some thrills were afforded in this lap by Sisz coming past the grand stand almost dead abreast. Sisz had a yard or two the better of it and the timers separated them by 1/3 second. Not quite 4 minutes later Dingley came along, with Tracy only 100 yards behind. On this lap more tire troubles were reported on by White, Nazarri had a puncture, Lytle's mechanic was thrown out at a turn and Hemery nearly overturned in a ditch while making the double turn on Willis avenue. Campbell dropped out because of a broken tank. The round summarized as before and showing all changes, follows:

No. 1, Jenatzy, third; No. 4, Lancia, first; No. 6, Wagner, fourth; No. 2, Duray, eleventh; No. 10, Sisz, second; No. 5, Keene, seventh; No. 7, Tracy, twelfth; No. 3, Dingley, fourteenth; No. 9, Warden,







NAZARRI SKIDDING ON THE BULL'S HEAD TURN



SCENE AT THE START WHEN KEENE WAS SENT AWAY IN FIFTH POSITION

ninth; No. 12, Cedrino, fifth; No. 14, Heath, eighth; No. 18, Hemery, sixth; No. 16, Chevrolet, thirteenth; No. 20, Sartori, tenth, No. 8, Nazarri, fifteenth; No. 11, Christie, sixteenth; No. 19, White, seventeenth; No. 15, Lytle, eighteenth.

At the end of the third lap Lancia was first not only in point of time, but was also leading the whirling string of racers. He passed the stand nearly 9 minutes before Jenatzy appeared and the time pieces showed that he had a lead of just 4 minutes over Sisz, who was again second in the official time records. In this round Cedrino came to grief at the telegraph pole, and there were only seventeen finishers of it. It was in this lap that Duray had his first trouble with tires. When Christie came past, his engine was skipping badly. There were a number of changes in this round, among the most interesting being the moving up of Heath, who was driving a careful, even race, jumping from eighth place to fourth in point of time, while Hemery slipped from sixth place to fourth.

Summary of the round: No. 4, Lancia, first; No. 1, Jenatzy, sixth; No. 2, Duray, fifth; No. 10, Sisz, second; No. 5, Keene, ninth; No. 9, Warden, eighth; No. 7, Tracy, tenth; No. 14, Heath, fourth; No. 6, Wagner, twelfth; No. 18, Hemery, third; No. 20, Sartori, seventh; No. 16, Chevrolet, eleventh; No. 8, Nazarri, thirteenth; No. 19, White; fourteenth; No. 15, Lytle, fifteenth; No. 11, Christie, sixteenth; No. 3, Dingley, seventeenth.

The first big cut made in the number of competitors came in the fourth round, when Wagner, Jenatzy and Christie had their troubles and withdrew. At the end of the fourth round Lancia had further increased his lead and Heath had taken second place from Sisz. Sartori was then coming to the front, having gained third place, while Warden was fourth and Sisz fifth.

The lap summary: No. 4, Lancia, first; No. 9, Warden, fourth; No. 5, Keene, sixth; No. 14, Heath, second; No. 10, Sisz; fifth; No. 7, Tracy, seventh; No. 20 Sartori, third; No. 2, Duray, tenth; No. 18, Hemery, eighth; No. 8, Nazarri, eleventh; No. 16, Cnevrolet, ninth; No. 15, Lytle, thirteenth; No. 19, White, twelfth; No. 3, Dingley, fourteenth.

It was in the fourth lap that the fastest time in the race was made, Lancia completing the round at the average speed of 72.94 miles an hour. The fifth round and half of the race was finished by twelve of the nineteen starters. It was on this turn that Lytle dropped out after hitting the fence. White was still going, but he did not finish the lap before the race was called off. On this lap Keene loomed up as a rival of Heath for second place by moving from sixth position to third. Lancia had increased his lead so that his victory seemed a foregone conclusion. At the end of half the race he had a margin of 13 minutes 16 seconds over Heath and was going like wildfire. Sartori had dropped back to fourth place, while Sisz retained fifth position. Summary of the lap: No. 4, Lancia, first; No. 5, Keene, third; No. 14, Heath, second; No. 7, Tracy, seventh; No. 10, Sisz, fifth; No. 9, Warden, eighth; No. 2, Duray 9; No. 20, Sartori, fourth; No. 18, Hemery, sixth; No. 8, Nazarri, tenth; No. 16, Chevrolet, eleventh; No. 3, Dingley, twelfth.

All this while Hemery was not attracting much attention, not any as a possible winner. He was driving a consistent, plugging race and had been moving up and slipping back. In the sixth lap Hemery moved again from sixth place to third, Keene having broken his car. Only ten finished the sixth lap, Lancia, Heath and Hemery being first, second and third. Sixth round summary: No. 4, Lancia, first; No. 2, Duray, sixth; No. 7, Trace, fifth; No. 10, Hemery, third; No. 8, Nazarri, eighth; No. 9, Warden, ninth; No. 10, Sisz, fourth; No. 14, Heath, second; No. 16, Chevrolet, tenth; No. 20, Sartori, seventh.



SISZ IN RENAULT GOING FULL SPEED

In the seventh round the actual positions of the first three men were unchanged, though Lancia had increased his lend. Only nine completed this round, Chevrement having dropped out with a broken axis there is the order of finish and actual positions: No. 4, Lancia, first; No. 14, Heath, second; No. 18, Hemery, third; No. 7, Tracy, fifth; No. 10, Sisz, fourth; No. 8, Nazarri, sixth; No. 2, Duray, ninth; No. 20, Sartori, seventh; No. 9, Warden, eighth,

Round number eight was the eventful one, when the fortunes of the race changed in a way that disappointed everyone. Christie had been making repairs since the third round and was running again, when Lancia pulled into the road from the Fiat . station, where he had stopped for oil. The collision between them delayed Lancia enough for him to lose all the benefit of his magnificent running. In spite of all he could do he was sixth in the time table at the end of the eighth lap with the remaining distance of the space too small for him to regain the lead. It was in this lap that Hemery took the lead after both he and Heath had done some hard running for the place. In this lap only eight finished before time was called. The summary of it tells its own story: No. 18, Hemery, first; No. 14, Heath, second; No. 8, Nazarri, third; No. 10, Sisz, fourth; No. 7, Tracy, fifth; No. 4, Lancia, sixth; No. 20, Sartori, seventh; No. 9, Warden,

Throughout the eighth and ninth rounds Lancia drove like a demon. Heath and Hemery and Tracy also had all increased their speed. The excitement in the stands during the last 2 laps was intense. Lancia passed Nazarri and Warden and made up enough time to be in third position. Tracy beat Sisz out of fourth place, in the ninth round, and Heath tried in vain to get the lead from Hemery. Only five finished this next to the last lap before the race was called off and their order was: No. 18, Hemery, first; No. 14, Heath, second; No. 4, Lancia, third; No. 7, Tracy, fourth; No. 10, Sisz, fifth.

How Tracy gained third place in the last lap and scored the first notable achievement with an American car in a big road race and how Hemery kept his lead over Heath and won the race has already been told.

THE CONTEST BY MEN

A race like the Vanderbilt is, after all, largely a race of men rather than machines. The spectator not of the trade speaks of the position of Hemery, Dingley, Heath, etc., not of where or how is faring the Darracq, the Pope-Toledo, the Panhard, etc. Yet when the facts are analyzed it is the combination of the man and the machine which was competing on the Nassau circuit last Saturday. A story which tells what each man did and what each machine did, complex as were their relations to each other, is the real story of what happened. The co-relation of one man to another, of one machine as regards its competitor, of one lap to another-these are for the ultratechnical to gloat over. The student of human nature is interested rather in the individuality, the work, the accidents and the glory or grief of the men who participated Hear then the tale of the people:

No. 1. JENATZY-The first of the German cars was the pathfinder. Jenatzy's mission was to push forward and find his way where no other car had preceded him along the oil-soaked course. He had nothing to guide him. He did not know whether the flagmen and special officers had done their duty. He had to trust to what the donor of the trophy called the "inherent good sense of the American people," to be sure that he would not plow through the masses which had gathered to see the contest. Jenatzy came to the starting point at least a good 1/2 hour before the time called for. He stood about and visited with friends, chiefly Frenchmen, for this Belgian driver of a German machine on American territory speaks no English. He investigated the car to see that all was in order and admonished his mechanic, Bariz, concerning the condition and handling of the car. Jenatzy has been a veteran too long to neglect any of the details. When he started his engine and rolled to the tape, he had put in plenty of oil, as was evident from the dense cloud of dirty yellow smoke which rolled out and enveloped the press stand so that no one in it could see the car or driver. Through the smoke-cloud came the sound of Wagner in bad French, calling the seconds before the start. Jenatzy was nervous. He fumbled with the levers and shook hands with Mr. Vanderbilt and others and watched the starter and Kerrison who held the watch and glanced about him with quick, bright glances. But when he received the word to start, he stiffened up and was as adamant as he grasped the steering wheel and started the power into the driving chains. He made a good start, the machine bucking slightly and then getting down to business. Jenatzy struck a good pace right from the start. He found the roadway unimpeded and, knowing what had been launched at him from the rear, felt it his duty to keep as far out of the way as possible. He drove without troubles of any kind for one lap. It was he who sailed past the crowded stand in his proper position and he was almost the only man who did so. He had everything to himself at that time. It was on the third lap that he made a stop for oil at the East Norwich control. He was delayed only a few seconds and pushed on, still holding his own fairly well, though Lancia was at that time considerably ahead on elapsed time, if he had known it. It was on the fourth round as he drove hard at the Bull's Head turn that he noticed the car was not giving its proper power. He pulled up at the side of the road and made a hasty inspection. He found out that he had cracked two cylinders, probably under the strain of making the turn. This settled Jenatzy, and as he softly swore to himself he realized that he had no chance. Now Jenatzy has driven in so many races that it is evident to him when he is beaten. He wasted no time in trying to accomplish the impossible, but secured a tow and left the course. He might have been a factor had his machine held together. The fracture of the cylinders was similar to that which happened to C. G. Dinsmore's machine last year. Jenatzy probably made the fast drive at the Bull's Head turn because he did not realize that he was out of the woods until the cor-



THE DUCHESS OF MARLBOROUGH

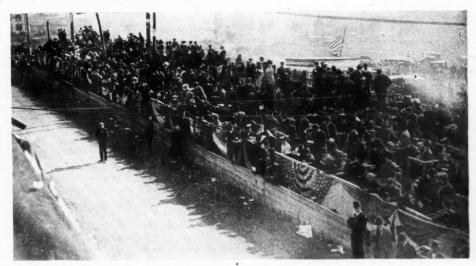
ner was upon him. The fact that one comes to the Bull's Head when one is least expecting it, is the reason there were so many incidents and accidents at this point.

No. 2.—DURAY—Duray's blue de Dietrich flashed past the stand with a great deal of regularity. He had come to the tape rather calm for a Frenchman. He was a decided relief after the antics of the nervous Jenatzy. But like all the Frenchmen, Duray carried an intimation in his manner that he was playing to the grand stand. He had unbounded faith in his machine. His start, however, was not so good as that of the man who preceded him by a minute. His mechanic was named Frankville and was an agile little fellow. Duray also ran steadily for a lap or two. In the fourth round, however, in the North Hemstead backstretch, a stone flew up in the carbureter and jammed the gears. There was a wait as many cars flew past, while Duray examined the damage. He found that his intermediate speed gears were in bad shape. Some of the teeth had been ground away and it was necessary for him to use high speed. This he did when he got started, somewhat behind. He fifth round. He was leading after that,

drove hard and on the turns did either of two things, ran on his first speed and crawled around them, or drove on his high speed and trusted to whatever diety a French driver worshiped. It was a frightful chance to take, but Duray took it at Jericho, and at Hyde Park. Thrice Duray had to stop to adjust the gears. Each time he had his tires inspected and once, at Jericho, he had a new tire placed on one of the rear wheels. He was still running when the race was over and was stopped by telephoned directions from the grand stand. Duray was expected to be the dark horse among the Frenchmen. It is said that he it was who tried to organize the French drivers into a team and have the work done under signaled directions from the stand. But he failed because Heath refused to drive in a combination. There is an intimation that the Darracqs were actually driven by signal. This will be explained later.

No. 3. DINGLEY-Dingley and his mechanic in khaki looked very business-like as they came to the tape. They were greeted with a cheer, the first sound which the grand stand had made, aside from the buzz which betokened much conversation. Evidently the grand stand expected a great deal of Dingley. He made the first lap in fairly good time. It was in the second lap after he had rounded the S turn that he cracked a cylinder. Dingley was a long way from anywhere. He could not get a telephone and there was nothing to be done but to take a walk to the Lakeville control. He walked or ran the two intervening miles and got the tools to sever the pipe connections. Then he was driven back in the Pope tender car to the scene of the trouble and there he made the repair and took up the work of driving again. He had to run on three cylinders and this he did, being still in the running at the close of the race. But Dingley was also hampered by tire trouble which overtook at two points on the course. Nearly all his broken tires and other delays came at the western end of the course. "It is the hoodoo locality," he said.

No. 4. Lancia-Possibly Lancia means "lance." It ought to, anyway. Lancia was one, as he cut through the field and had all the race at his mercy up to the



GENERAL VIEW OF THE GRAND STAND, LOOKING SOUTHEAST FROM THE PRESS STAND



HEATH'S FINISH

for even a smashed car can do some running and Lancia was miles and miles ahead of his nearest rival. Lancia looked worried as he prepared for the start. He had a heavy look as if he was thinking too much for an Italian. He stood waiting for the word, given to him in French, his big machine rattling like a truck going over heavy cobblestones. It was quite the loudest exhaust the grand stand had ever heard. There was power in every vibration. Lancia wore a sweater of gray material and looked somewhat illy prepared for the race. He wore a white collar under the sweater as if he had been called suddenly from some cleaner occupation to drive the race. The on-lookers gasped as he left the stand, so fierce and sudden was his dash to the fore. From that time on, Lancia's course was simply described in one wordspeed. He sacrificed everything to it, except care at the Lakeville, Bull's Head and Willis avenue turns. These places he approached with a good deal of dash, but shut down as he took the actual corners. This was noticeable during the early stages of the race. After the collision with Christie, Lancia grew more reckless. It was then a question of holding enough of his lead to win and he took every possible chance. Lancia stopped once at Lakeville for a puncture and had a Michelin fastened to a front wheel in record-breaking time. He thought he needed another set of tires on the fifth round and stopped to have them put on at the control near the S turn, also having water and oil renewals. As a matter of fact, Lancia figured that the race was half over and that he would be better off if he ran the second half with a new equipment. He stopped just a moment too long, however, as it happened. As the work was completed and Lancia had climbed back into his car the flagman nearby shouted, "Car coming!" Apparently Lancia did not hear the call. If he did he did not understand it, nor did he grasp the meaning of the frantic motions which the flagman was making to hold him back. He shot into the road just as Christie came along and the two rear wheels of the two machines came together. Lancia had had time to turn slightly and the blow was a glancing one, so that, instead of being utterly demol-

ished, he received only a broken rear wheel. Christie was less fortunate. The big blue front-drive car was whirled round and almost overturned and Leitner, the mechanic, went flying for 30 or more feet and landed against the base of a large tree, knocked out. A great crowd at once surrounded the two machines. A physician who happened to be present went at once to the aid of the injured man. The crowd evidently supposed that Lancia had done this thing deliberately. They made a rush for Lancia, who did not understand what they were about. He stood calmly watching them, but when it was explained that they deemed him almost a murderer, he grew excited and explained volubly that he had not known that Christie was there and that if he had tried it, he was just as likely to have been killed as the occupants of the other car. The logic of this thing translated to the crowd seemed to abate its fury for it faded away from Lancia's locality and spent its time looking at the wrecked American car. In the meantime, Lancia's mechanical force had got to work and had replaced the injured wheel. The Italian was ready to start in less than 20 minutes from the time the injury occurred and was on his way a moment after in an effort to hold his lead. But a crippled car cannot go as fast as one in good condition and the Fiat was undoubtedly injured more than showed on the surface. Lancia was unable to make the time he had been making and fell steadily behind. In the eighth lap he had tire trouble and more trouble with the wheels and steering gear and there was a further delay which served to set him back long enough to lose the third place to Joe Tracy, who had been plugging steadily forward, holding his own. Lancia ran round to the stand after the race and explained things to Mr. Hollander, who entered the car. He was not inclined to shirk the blame and said frankly that the collision was his own fault. But he alleged that he had not used undue carelessness and that he had been improperly warned. Mr. Christie was not inclined to blame Lancia after the race was finished. He said it



was one of the incidents of road racing and he and Lancia had been the sufferers and that there wasn't anything further to be said about it. Had Lancia not suffered the collision, he would undoubtedly have set a new record for road racing. During the time his car was in trim, he had every record ever made beaten to a frazzle and drove with consummate ability. His first 4 laps were made at an average speed of over 70 miles an hour. His fourth lap, in 23:18, was at the rate of 72.96 miles an hour. This is running

No. 5. KEENE-Foxhall Keene drove a fine race, but was a little too daring on the curves. This eventually was the means of his being taken off as a contestant. He was perfectly cool at the start and continued so throughout the race. He wore a heavy gray ulster and didn't look much like a race driver. His mechanic, Luttgen, was dressed in black leather and seemed nervous. Keene spoke to him just as the car started. The start was good. From first to last the running of Keenewas steady and fast. He climbed from a low position to a high one and was near the leader when he ran into the telegraph pole at the S turn and was down and out. He stopped once for gasoline, but outside of that had no delays. He had absolutely no tire trouble. Keene met his finish at the pole which, situated just at the first turn of the Willis avenue S, was a menace to every driver in the race. The racing board had made ineffectual efforts to have it removed. Keene would not have hit the pole if he had slowed down more. But he skidded and it was the pole which stopped the skid. Luttgen had leaned over to avoid the pole and the shock threw him across Keene's face and down between the wheels on the driver's side. He managed to roll under the body of the machine and escape the wheels of Keene's car and those of Heath's Panhard which almost went over him as the latter sped by. Keene drove the car far up in the field near by and after looking it over abandoned it and went back to the stand. He was told that he was second in the race and said it was "awfully hard luck, but-with a shrug-it was only luck, don't you know."

No. 6. WAGNER-How much should be given to a story which was

old after the race is doubtful. This was to the effect that the two Darracq ars were run by a man in the stand who with two assistants on other points of the ourse dictated to the drivers by signals how they were to drive and at what speed. It doesn't really make a great deal of difference so far as Wagner was concerned. He had ignition troubles in the third round which put him out of the running. Wagner had the first car without a hood which came to the tape. He and his mechanic wore sweaters with the word "Darracq" on their chests and looked nervous. Wagner made a good getaway and ran well for the 2 laps when he was a factor. On the second lap he burst a tire on a rear wheel as he passed the stand and called forth some excitement by dodging a man with a camera who persisted in crossing the track ahead of the car. Wagner said afterwards that he had not seen the man. It is probable that the man was not as near the car as the spectators imagined. Wagner had no other tire trouble than this during the time he was running. He took his early retirement cheerfully and said the breakdown was such as might have happened to anyone. He said it was not the fault of anyone in particular, but refused to explain it.

No. 7. TRACY-Joseph Tracy, with his vellow handkerchief about his neck, drove through the race without scarcely stopping. Three stops for oil and gasoline during the whole ten rounds were all that were recorded and so far as could be ascertained he had no tire trouble. The machine ran steadily and without missing and Tracy simply pounded away and waited for the foreigners to tire out or for the inevitable accidents to occur. He took no chances at the turns and altogether drove a consistent and careful race. His securing third place was as well as he could have done with the machine he drove, which he had had fitted with two new cylinders the night before and he is deserving of great praise for having made so good a showing and for upholding the credit of America in the race. His was the only American machine which made a good showing. Part of his success was luck, of course, but Tracy tried to make the luck as little of a factor as possible. Further than this,

not much can be said of the details of his race. His rounds were made too consistently to allow of incident. He made a special spurt at the finish and earned the position which he gained.

No. 8. NAZARRI-It seemed when Nazarri got away from the grand stand, as if the Fiat which he drove was working on three cylinders. It was not running well by any means, though Nazarri seemed to be sure of himself. He took both hands from the steering wheel and waved them in the air as he started. He was decidedly gay. It was in the second lap that Nazarri had to stop at Jericho and look after his ignition. There were batteries and wires to replace and some changes to make which took up considerable time. It was this loss of time which put him behind and kept him behind all through the race. Nazarri kept manfully at it and was running on his last round when the race was called off.

No. 9. WARDEN-Warden was the second man to be cheered as he drew up alongside Starter Wagner. This was because he had been energetic and had replaced broken cylinders with new ones in time to enter the race. His machine, like that of Jenatzy, started in a cloud of smoke. For 4 laps he ran well and was well up in the list of those who might be among the leaders. But in the fifth, sixth and seventh rounds, Warden had tire trouble at various points around the course, and besides, his new cylinders did not work as well as they might. He simply lost time, lost time, and then lost more time until he was so far behind that his case was a hopeless one. Warden drove a careful race and took the corners in a gingerly manner. On the straights he let out the Mercedes for all that was in her.

No. 10. Sisz—Sisz was the interesting figure, from a spectacular standpoint, of the whole race. His machine was distinctive in appearance and was very fast. He was dressed in black leather, as was his Russian mechanic, Dimietrivietch. The great oval hood, painted red, marked the Renault at all stages of the game. Everybody knew Sisz. Everybody knew the Renault. As the car raced by the stand, neck and neck with Keene's Mercedes, one of the most

WILLIE K., JR.

exciting moments of the race was experienced by the spectators. Sisz's trouble was with his radiator. It began to leak during the first lap and kept it up steadily. Sisz had to stop repeatedly and refill. Once he had to stop far from a control on the Jericho turnpike and send his mechanic on a run to a farmhouse for water. While ha was gone Sisz changed a spark plug and adjusted two more. A prominent engineer in the automobile trade, who stood near, said afterward that he had never seen adjustments and replacements made with such agility and speed. He said Sisz's fingers worked like machinery and that changes were made so fast that the eye could hardly follow them. Sisz was running when the race was called off and was a good fifth to Lancia's fourth. Had the race been a round or two longer, he would undoubtedly have overhauled the Italian and probably

No. 11. Christie—Walter Christie lost time at the start. He was more than 28 minutes after his starting time when he entered the race with a flying start granted by the referee. He had tire trouble and ignition trouble, but or the whole was not doing badly when he collided with Lancia. At this time, he avers, his machine was running better than it had run at any time and he had hopes of gaining some sort of a position.

No. 12. Cedrino—Cedrino's career was brief. He started well, made 2 laps without incident and was a factor in the game when he ran into a pole at Lakeville and smashed the steering gear. Then it was all over.

No. 13. Campbell.—Campbell was carrying the letter X in place of the number 13. But it was no use. He ran 1 lap and was then thirteenth man. Then he quit. A leaky gasoline tank did the business.

Nc. 14. HEATH—There is not much to tell about the running of Heath. He drove a race similar in all respects to the race driven a year ago on the old course. He avoided the sharp turns and speeded on the straightaway. He was calm, nerveless, steady. He lifted his hand in salute each time he passed the stand where his wife sat watching him anxiously. He did not stop during the whole course of the race except for the perfunctory duties of refilling his tanks, except once near the Willis



LANCIA PASSING THE VANDERBILT ESTATE

HEATH ON SHARP TURN AT LAKEVILLE



VIEW OF THE CROWD AS IT PACKED THE COURSE AFTER LANCIA HAD FINISHED

avenue turn, when he had an adjustment to make. He received the announcement that he was second with calm imperiurbability and had no comments to make on the race or on any of the drivers.

No. 15. LYTLE-Lytle was the favorite among the Americans, although his was a car added by the cup commission. Lytle had all manner of ill luck. His tires went wrong almost from the start, and he completed the hoodoo record by running inte a large Newfoundland dog, whose corpse assisted in rendering the steering gear a wreck. Before this, Tattersoll had been thrown out of the machine and Lyt!e had attempted to proceed without a mechanic, which would have spelt disqualification for him if he had succeeded in doing it. Then he had chains which broke, and finally found himself helpless a long way from a control. He tried to call up the repair station on the telephone and lost 10 minutes in a vain effort to do so. Then he quit.

No. 16. CHEVROLET-Chevrolet was the third man to come to grief at the S turn. His car skidded into the same telegraph pole as that of Keene. It was on the sixth lap and the Frenchman had been doing well up to that point. His only stops had been for supplies and for one bursted tire at Lakeville. He, too, took the first turn of the Willis avenue serpentine at a fast gait. His car landed with a glancing blow against the fatal pole which already had a huge chunk torn out by the Keene Mercedes. Chevrolet, with admirable control, drove his car off the road and kept it right side up with care until he reached the center of a large field adjoining the course. Then he crawled from his seat and looked the damage over. He had nothing to say except that it was his own fault. The car had a bent axle and could not be steered at speed. The car had not been making the speed it, should have done. Chevrolet was the only man at the start who seemed afraid of the work before him. He was painfully white about the lips and his hand shook perceptibly.

No. 18. HEMERY-Hemery won through good head work. The Darracq machines were not by any means the fastest in the race and needed attention because of the delicate mechanical construction. Hemery humored the machine constantly. He took no chances and he and Wagner were signalled to from the grand stand every time they passed as to how fast they were going and their position. It is also believed that there were other Darracq signal men stationed about the course, for Hemery knew every time he stopped for oil or gasoline just where he stood and what his chances were. He was very attentive and businesslike at the starting line. He wore a dark sweater with the word "Darracq" embroidered on it, as did Wagner. Hemery made only perfunctory stops until the beginning of the sixth round, when he ran into the Dunlop control near Jericho and changed all four tires. The tires were not injured, but he was under orders to take no chances. The result proved the wisdom of the action. He had no tire trouble and no engine trouble to speak of. Hemery was very quiet over winning of cup. Friends vociferously crowded about and kissed him



VANDERBILT TO TATTERSOLL'S RESCUE

all over his smoke and oil-grimed face. He said the machine did it—not him. He said he had no fault to find with the course, but that with fewer turns and corners he would have made the Florio road race record look like 30 centimes. Then he grinned while the remark was translated.

No. 19. WHITE-Every one laughed as White started away when he received the word go from Wagner. Taking a lesson from experience in the eliminating trial, White started very gently and allowed the steamer to glide softly forward for 20 feet before he threw on pressure. This was so different from his brash start in the trials that the crowd laughed heartily. White drove in a gingerly way and had trouble from the first. His gears did not work and his tires burst and were punctured with heart-breaking inconsistency. Before he had gone 1 lap he was laid up for repairs at Bull's Head control. It took him more than 4 hours to make 4 laps and when he finally stopped it was because the cylinder head had broken. Even then he made an attempt to keep going. He tried to get Bull's Head control on the wire, but wasted 10 minutes in fruitless attempt. Then he borrowed a bicycle and began the stunt done by Robertson in the eliminating race. Before he had ridden 2 miles the chain of the bicycle broke and White was forced to give up. He said: "I guess the next thing to go will be my leg or neck, and suppose I'd better save that." He said the cylinder head repair was easy, if he could only have gotten the part. Tears stood in his eyes as he told of his hard luck.

No. 20. Sartori—The veteran was very careful as he started. He drove better than he was ever known to drive on any American track or road. He got a great deal out of his car and was still running when the race stopped. He had made 8 laps. He had tire and wire troubles at various points and stopped on an average once each lap for tinkering. But on the eighth round the car was running better than ever and might have had a chance if early troubles could have been avoided. He was stoical over his defeat, but hoped for another chance at the cup.

SIDE LIGHTS ON THE RACE

America has demonstrated that it is getting there in the matter of building fast cars and that it is there with the goods in the matter of tires. Taking all things into consideration the American cars came out of the scrimmage with about as clean a record as did those of foreign make. Not a Mercedes car finished, though in fairness it must be said that Warden in this make of machine was still running when the race was stopped. Of the French cars Hemery's Darracq and Heath's Panhard came in first and second, Sisz' Renault was still running, but Duray's de Dietrich and Wagner's Darracq were out of it somewhere. Only Cedrino and Chevrolet in Fiats were put out, while the other Fiat drivers, Nazarri and Sartori were still running when the race was stopped, while Lancia had made his remarkable run into fourth place. Joe Tracy was the only American to finish, his Locomobile seeing him through without the least trouble, while his Diamond tires carried him the entire distance without change, a record never before made save in the Florio cup race. The other American cars were put out from one cause or another, but, with the exception of Dingley's Pope-Toledo, whose cylinder cracked, there developed no structural weaknesses.

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The Vanderbilt cup race will go down in history as the greatest road event up to and including the year 1906. It was the superior of any foreign event in so many points that is must be conceded that America has topped the heap. This is all the more apparent if attendance and enthusiasm is to be taken into consideration. The enthusiasm was so acute that were some of the members of the motorphobia press-even including writers on the Chicago Tribune and Inter Ocean-had been present they, too, would have been forced into the spirit of the occasion and would have become automobilists if they could have their individual ways about such matters. With the metropolis of the western hemisphere to draw from, to say nothing of the hundreds of towns and cities within a radius of a hundred miles, and the course but a matter of some 25 or 30 miles away, is it at all astonishing that there should have been a record crowd to see time annihilated? It is a safe estimate that a hundred thousand people saw the race from various points around the 28mile circuit and if this is any indication of the interest in automobiling in this country then well may the motorphobia press pull in its horns and admit it is on the wrong side of the fence. A surging crowd extended in either direction from any point around the entire course. The people went on foot, in horse-drawn vehicles, in automobiles and on bicycles. It would appear as if everything with a motor had been lined up along the course; there must have been a good 5,000 machines of all ages and all descriptions somewhere on that 28-mile stretch.

There was as much difference between the drivers and their methods of handling their mounts as there is between as many jockeys. Smiling, good-natured Lancia created the most favorable impression from the start. His handling of a car was supreme, he was easily the king of them all, driving with an ease that betokened the master. Heath, American, calm, confident and steady. Not a waver was noticeable, not a hitch, not a move except recognition of his family in a box by the raising each lap of his right hand. Hemery, daring as Gabriel, handling with wonderful daring a car that bobbed around like a cork, caring for nothing but his desire to cover ground. Joe Tracy, careful, watchful and cautious, but driving with an intent to finish and make some pretense of upholding America's honor. Tracy was not looked upon as a favorite; he was not making an impression at first. It was after one by one of the foreigners or his team mates had been lost and he had kept on going, going, going, that he began to receive the attention of the crowd. Then this attention began to grow and he

was told of it as he finished another and

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THE TIMERS AT WORK

another lap and was nearing the end with bright prospects for a place in view. Sisz, another daredevil but seemingly lacking in ability to pilot his car quite as fast as others but driving splendidly. And Jenatzy, a favorite at the start and as long as he lasted, but unfortunate, as has been his record for the past two seasons. Walter White plainly showed his lack of experience in such a contest, but he started off with no intention of repeating his per-formance in the eliminating trial by breaking a universal joint or anything else by a too sudden opening of the throttle. His was the slowest of all the starts. Lancia, Hemery and Jenatzy tied for quick getaways.

Word comes by cable that the Automobile Club of France has recognized the suspension of Hemery for 1 year by the Italian racing authorities and disbarred him from racing in France during that period. The original suspension grew out of a row over a mix-up of the timing at the end of the Florio cup race, during which Hemery, in his excitement, was impertinent to the Italian race officials.

The Darracq racers ran on a schedule and system devised and directed by Mr. Rawlinson, an Englishman, who is said to be chief stockholder of the company. Hemery and Wagner were instructed not to exceed 26 minutes for the first 6 rounds, it being figured out that their reckless rivals would wreck their cars through excessive speed and that in the last 5 laps there would be ample opportunity to take to chance and make up lost ground. Rawlinson and an assistant sat in the grand stand and displayed cards indicating the time and position of the Darracq men and also warning them when to quicken or slacken their speed. It now turns out that in Thursday's practice two cylinders were cracked in Hemery's car and were replaced from an extra racer of the same pattern kept for just such an emergenev.

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Before the race was run it was freely predicted that there would be not only one but several fatalities, and as a result the future of road racing was then and there doomed-if accidents occurred. There was a good cause to believe this, for when those thundering locomotives of the road swept through the narrow lines of human beings it seemed as if nothing could stay the hand of fate and leave the race free from more than one sad tale. The death of one dog evidently did not count, for there were few who did not openly express the opinion that next year would see another race and over the same course. There is no danger that the Nassau county people will prevent a race, they reaped a bigger harvest on this race than they could gather in ordinary ways in twice several years. They will even go to the trouble to make long, easy turns and bank them at that. That's what some of the county officials say, anyway. Between justice court justice, prairie feather beds, ham and eggs and other things dished up to the visitors the Long Islander fared pretty well toward the right side of his ledger.

"To Hemery and France the race; to Lancia and Italy the glory" was the trite way the New York Herald told the story of the big contest, and no few words could have been selected and put together to give a better idea of the feeling of the entire crowd which witnessed America's second big road event and the equal of the contests which are run



LANCIA SURROUNDED BY AN IMMENSE MOB AT THE END OF THE RACE



GENERAL VIEW OF THE ROAD AT THE START, TRACY PASSING THE GRAND STAND, AND THE IMMENSE PRESS STAND

abroad. Hemery drove a grand race, closely pushed by Heath, an American in a French car, but Lancia clearly demonstrated that the combination of Lancia and Fiat was unbeatable, barring accidents of which neither the driver nor the car was in any manner to blame.

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As a Goddard says Hemery was the only driver who did not shut off at the Mineola Railroad crossing, and estimates he gained enough thereby to come pretty near winning the race, as the car was on flight with all wheels off the ground, the mechanic wagging from side to side to maintain the balance of the car.

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Wagner and Hemery sail tomorrow by La Savoie and Lancia and Nazarri on Saturday. Heath will remain several weeks.

Billy Hurlbert, of the Packard force, says Nazarri was the real dare-devil of the race. He was the only driver who did not slacken at a bad curve on the north road following a steep hill. Each time he tossed up whole slabs of earth and drove through the bushes on the outside.

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It was a tented field indeed that surrounded the grand stand. To the rear the A. C. A. had two, one for refreshments and the other for the reception of women. Two more were erected by women connected with Nassau county church societies and devoted to the sale of refreshments, and on the opposite side of the course a disbanded circus set up ten canvases and peddled food and drink. The New York Motor Club leased a small cottage to the east of the grand stand, which it packed with members one night, and built a stand besides with the addition of a bulletin board, showing the progress of the race in miles per hour. E. E. Schwartzkopf set up what he called an open air

show to the rear of the stand and made its presence felt by a brass band and appreciated by a hospitality tent annex. The show was a joke of "Schwarzy's." Three or four makers had made serious entries, but the space he leased was devoted mainly to parking, the cars being drawn up in a hollow square.

"Vell, vot do you vant?" asked the resourceful publisher of Automobile Topics. "Haven't you an automobile show? Look at all dem fine cars."

A. D. Proctor Smith, of Smith & Mabley, says he lost \$2,000, one even that Jenatzy would beat Lancia and one to ten that he would win the race.

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"Say, old man, how'll you have yours—French, German or American?" asked Wag of Foxhall Keene, when he came up to him to start him. "Shail it be un, deux; ein, zwei, or one, two?"

The cash reward of Hemery's victory was \$12,000. The Dunlop tire people paid him \$2,000 to put their tires on his car and \$5,000 additional for winning. He

also received \$5,000 from Darracq & Co. for his victory.

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In Tracy's victory a great triumph was scored by American tires. The Diamonds, with which the Locomobile was shod, carried the car through from start to finish without a single stop.

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The battle in Japan straits was as nothing compared with the mighty roar of the exhausts from the massive racing machines as they went to the starting line. A dozen machines, forty or fifty cylinders, all going at once, was enough to satisfy any Fourth of July enthusiast. A mist overhung the road at the peep of day and kept down the clouds of blue smoke pour-

ing from the forty or fifty cylinders on a dozen or so cars that thundered away in the early morning. It looked like a battle-field—picture—without the dead and dying. But there promised to be material evidences of a battlefield before the day should end, for the haze that was hanging on during the start only lifted when the sun came up and drove it away.

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If anybody had looked over the crowd in the grandstand and had been told that extraordinary people were there, they would have had to been pointed out to be known. The Duchess of Marlborough, the Vanderbilts, the Belmonts, to say nothing of others of the smart set, were no more conspicuous than any other automobilist, not even John Farson. They were on this occasion automobilists, and as interested as the most ardent racing fan, Little Mrs. Willie K. herself was the equal of her sportsmanlike husband, the donor of the cup bearing his name and the referee of the race, a young millionaire by all declared "one of them."

One of those big racing cars could easily play considerable havoc at a turn, and men were kept on hand to rake the gravel torn up so as to provide a decent path for the next machine. At one turn an Irishman had done his best to keep the road in shape, but in despair remarked that if a few more machines were to make the turn there wouldn't be enough gravel left to rake and he would have to quit his job and go home.

E. J. Conill, president of the Cuban International Automobile Racing Association, was so carried away with enthusiasm at the wonderful driving of Lancia and marvelous speed of the Fiat that he offered the former all his expenses both ways to come from Italy for the Havana

tournament and agreed to tuy his car besides. Keene is to compete and the White people are to send down their road and track racers.

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It might have been impossible to afford better protection to not only the crowd but the contestants by keeping the course clear, but the officials declared it was beyond human power unless Uncle Sam had loaned his standing army to act in the capacity of a police force. It was not a fact that the road was kept clear of people and in this the Americans will doubtless receive some criticism by foreigners. Still, it must be remembered that there was not a spectator hurt, which is the best evidence that the affair was properly managed. The system of flagging was ideal and was probably responsible for the absence of any trouble to spectators and to contestants as well.

HEMERY'S CAR AFIRE

New York, Oct. 15-The law of compensation got in its deadly work on Hemery, winner of the Vanderbilt cup. As he was seated on the lawn at his quarters at the Glendale hotel, at Glen Head, today, surrounded by Duray, Wagner, Jenatzy and other friends, to say nothing of a gaping crowd of admiring rustics, flames suddenly leaped from the ground and enveloped the speedy Darracq, which had won for him the victory. The ear had been taken from the stable and was being cleaned preparatory to being shipped back to France, There was much oil and gasoline on it and the ground, too, was soaked with these combustibles. A lighted match was thrown. A blaze started at once. All hands sprang to the rescue and fought the flames with sand and water to naught avail. The fuel had to burn itself out. The car, however, was not totally injured as there were only the tires and seat upholstery to burn. The car had not been sold, as was stated in the printed reports.

CAILLOIS TOO LATE

New York, Oct. 16—Caillois, who was second to Thery this year in the French trial, dropped in at the Motor Age office this morning. The Savoie arrived too late Saturday for him to see the race. "I am delighted at the result of the race," said he. "Hemery and Heath, you know, were put on the French team to take the places of Thery and myself. I thought Hemery had a good chance, for his car is built right for such contests. It is light and not too highly powered. Lancia is the most wonderful automobile acrobat in the world.

"His daring is marvelous, but he is not a safe driver and is likely at any moment to lose through an accident. From the results of the race and what I am told I judge that you have a splendid course, though it is too narrow in places to be ideal. I think the length of the circuit is not a bit too short, but the length of the race is. It should be at least 400 miles to test the cars. In so short a race as 283 miles any car may have the luck to win. It is a spurt all the way and the drivers take too great risks. I cannot say whether the Bennett race will be run next year; but it is nonsense to talk of making it a race for touring cars. How could you fairly match cars of different powers? Are you going to have any more track races? I like them. They are full of interest for the spectator, but they are very dangerous to the drivers. I wanted to race in the Vanderbilt this year, but my firm would not let me. Perhaps there will be a race here next year and then I hope to be on hand. Thery, though, is through with racing for good. I am not ready to quit myself, for I like the game, and besides I have not yet accumulated the fortune my team mate has on the road."

BANQUETTED THE FOREIGNERS

New York, Oct. 17-The foreign drivers were conspicuous chiefly by their absence at the smoker and reception tendered them tonight at the A. C. A. Duray alone was present. Tracy, of the American team, however, was on hand, as was also Caillois, the runner up to Thery in the French trial. Nazarri and Lancia had gone to Niagara Falls and the others were probably sight seeing or buy arranging for the shipment of their cars. The rooms, however, were crowded with members and others. President Morris made a net little speech congratulating France and prophesying that Uncle Sam, in view of Tracy's success, would lift the cup back next year.

It is probable that most of the foreigncrs will depart by the Thursday and Saturday steamers unless they can be persuaded to stay over for a race meet that is being arranged for them on Atlantic City beach on Friday and Saturday of next week.

A banquet has been arranged by Senator Morgan in honor of the visitors, which will occur at the New York Press Club tomorrow night.



AFTER THE RACE THOUSANDS OF PEOPLE CROWDED THE ROAD, PREVENTING AUTOMOBILES FROM LEAVING THE PARKING SPACES



WHAT THE BIG RACE INDICATES

A MERICA can well feel proud of its record in the Vanderbilt cup race, a record which few, even the most patriotic, believed it capable of making—that one of its cars finished better than fifth was more than most people expected. It was long ago conceded that either France or Italy would carry off the honors, Germany having lost prestige in contests of this sort.

This year's contest had much more of the international flavor than did the first Vanderbilt cup race, notwithstanding the presence then of some of the foreign drivers, who, however, bore no such reputations as speed merchants as did those who came across the ocean this year to try conclusions with the Americans. The success of two American cars last year could not be accounted as a victory from a speed point of view, for those cars did not show remarkable speed. This year, however, an American car finished third in the choicest field ever seen and not only made a record in this respect, but went through the contest without so much as stopping to inflate tires, much less replace parts and tires. It was a tire victory as well as a car victory; it was a tire victory which has only once been equalled, and that in the Florio cup race. It was also a victory for an American driver, whom the foreigners did not fear before the race, but whom they must take into consideration in the future international long distance road

America need not by any means feel at all discouraged at the outcome of this event simply because but one of its cars finished. That one car finishing third in such a field of starters is sufficient glory to warrant it in throwing up its hat and shouting. America can now see what it must to to win such a contest; to hold its own with those countries which have had many years of experience in building racing cars and in operating them. America can easily see that she is gaining in experience in building good cars, cars that will withstand the terrific strain to which they are put in such a contest.

It has been a long, discouraging fight to get near the clearing. Perhaps we should whistle softly, but we can whistle a little, just the same. Whistling always encourages—it seems to drive away fear. Let the American maker whistle softly, but let him keep on building cars and making the gains he has been making and the world will hear of not only one American car finishing but of several doing likewise.

Tracy's driving in the Vanderbilt cup

race was such as to show that an American can do what any other man can do; the conduct of his car was such as to show that an American car can be made the equal of any on earth, and further it was demonstrated that American tires can be and are being made to not only hold their own against the world but to put up a record which will withstand a lot of continuous beating.

America has been a little slow in this road racing game. She has been slow to profit by mistakes, but she has finally come around to a sensible way of reasoning and is now on that road which must eventually lead to the top of the hill. It may take a little more time, but it will come, nevertheless.

France is to be congratulated upon its success, but at the same time it must realize that its southern neighbor, much younger in the field of automobile racing and automobile manufacturing, is leading it this very day in propositions involving speed in automobiles. Hemery drove an excellent race, he is entitled to all credit; but, barring an accident, which was no fault of the car, Lancia was as sure a winner as ever was known. The race was Lancia's from the start—in the language of the street, "there was nothing to it."

The race itself was a well-conducted affair on the whole—far better than most people had expected. It was devoid of

accidents of any moment to contestants and not a spectator was so much as frightened. Those who advocated the abandonment of road racing have had what little wind was left taken out of their sails. Road racing has been shown to be as safe and safer than boulevard riding. It stands in the same light as the 18-hour train—the road is so well guarded that accidents are almost impossibilities. In all forms of sport there is some element of danger, but with the care that was exercised in the conduct of the Vanderbilt cup race road racing dangers have been minimized, and, in short, eliminated.

Next year will probably see another event of a similar nature and not unlikely over the same course. The result of the race of Saturday was so encouraging to American makers that a number have already promised to go into the manufacture of racing machines for the purpose of showing to the world that they can and will make cars equal to those of foreign construction in point of speed and lasting qualities. The American has heretofore been discouraged; now he is hopeful and will begin turning out a racing car, all the time keeping up his tuneful little whistle, softly though it be. He can afford to whistle softly, but at the same time he will be whistling with more confidence than he has ever dared to pucker his lips before.

The people want a reasonable amount of road racing—road racing of quality, such as the Vanderbilt affair. The attendance at this race indicates the growing interest in a contest teeming with interest and excitement, but at the same time practically devoid of danger when plans are carefully laid and carried out to avoid danger. The mistakes of last year were easily seen and rectified; those of this year have been noted, so that another year even the few accidents to the contestants and their mounts may be avoided and the entire field of starters may be in a condition to finish and thus give the American people a sport full of excitement and at the same time prove of benefit to the maker in the matter of automobile designing and construction.

WHY THIS EFFORT FOR GOOD ROADS?

Does the great American public want good roads? Does the automobilist, the cyclist, the user of horse-drawn vehicles, the merchant and the farmer want good roads? There has been nothing of a startling nature within the past decade to warrant the belief that good roads are necessary or desired by any but a few enthusiasts, who are rapidly becoming reconciled to the fact that the lack of interest in this most important proposition indicates no desire for improved roads.

The automobiling organizations and the farmers have done nothing worthy of note toward securing better highways; the farmer is adamant; the merchant does not care—all blind to their own interests and their own comforts and pleasures.

The newspapers have been called upon in the past to give the good roads movement support. They have responded to the call generously. It has all been in vain. The little boom that the project had a few years ago died with cycling and has been under ground ever since.

Let it stay there! What is the use of a few worrying out good gray matter for others when others will not turn in and so much as sign a petition to have a bill passed? Why should automobilists and farmers and merchants receive a benefit that is all to them when they take so little interest in a proposition?

It were better that all efforts be laid aside until all classes realize the necessity of improved highways, as they will before many years shall have passed.

A policy which is either unfriendly to or directly against highway improvement is not only a short sighted one, but indicates antediluvian tendencies. Look out for the man who does not favor good roads, be he farmer, merchant automobilist or politician, and particularly keep an eye on the politician, whose judgment may be easily warped.

Glidden is about to go glidin' again.

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Fur suits and anti-freezing compounds will begin to feel rather comfortable in a short time.

10 Mg

Motordom will now stretch its arms, yawn a bit, talk good roads and wait for the shows and the Florida beach meets to break the ennui.

America hasn't lost the Vanderbilt cup yet. It is true France has it, but France is under a bond to run a race for it or to turn it back, so all is not lost.

P. P.

Now that the Vanderbilt cup race is over, the tourists and the other plain automobilists will come in for an inning. After that the shows and the "entire product sold."

Those who won places in the American eliminating trials and were thrown out will have a beautiful chance to do a lot of sneering at the cup commission the way the Vanderbilt cup race turned out.

10 Mg

A little girl met death in Chicago by being dragged by an automobile, upon which she was hitching. But the automobile received its full share of blame by the Chicago Motorphobia Press Association, just the same.

16 18

The crowd at the Vanderbilt cup race was provided with a band, just what for is not known, for while the band was playing to beat itself the contestants in the race were also going to beat the band, as the times made indicate.

36 36

It was an obliging act on the part of the Automobile Club of America to furnish a refreshment tent for the women at the Vanderbilt cup race, but what the man who walked wants to know is why were so many men hanging around this particular spot on the grounds?

8º 8º

Out in San Francisco a wholesale grocer had discovered that the automobile has increased the sale of chewing gum 25 per cent. Motorists have been known to chew the rag, but that they should boost the profits of Messrs. Yucatan, Tutti-Frutti, Tolu & Co. to such an extent was never suspected.



BEATING THE BAND ON LONG ISLAND

Even if the weather man did receive a cussing last spring at the tongues of the American motorists, he has of late been dishing out weather good enough to more than take off all the cuss.

* *

At last a ray of light has penetrated the Cimmerian darkness! On Friday last Adam Newhart, a Bethlehem township farmer, was actually fined \$13 by Magistrate Brunner, of Easton, Pa., for refusing to draw his team to one side and allow Clement F. Hill, an eastern automobilist, to pass by!



France lifts Vanderbilt cup, with America second, Italy third and Germany nowhere; Hemery is winning driver, Heath being runner up; accident robs Lancia of almost certain victory.

Italy makes bid for British trade by opening a Fiat branch in London; radical changes being made in English trading system.

Clifford-Earp, in English Napier, wins Chateau Thierry hill climb in France, average speed being 58 miles an hour; he also captures honors at Dourdan meeting.

Dewar cup event, set for Wednesday, abandoned because of accidents to cars entered.

New York legislature's joint committee starts on 1,000-mile road investigating jaunt.

England reports motor boat racing received setback as result of season's schedule. Aero Club of America formed in New York to

advance science of aeronautics.

Foreign drivers who competed in Vanderbilt

race return home this week.

New Jersey experiments with coal tar to make dustless highways.



France has definitely settled that she will have her tire race next year. In the language of the pun-maker, she has retired from the Bennett-Vanderbilt competitions and it will take at least 3 or 4 more years for her to tire of the new fad.

A police officer at Cleveland, O., doesn't believe automobiles are so dangerous as most people do. "We investigate every accident and have found every one to be due to the carelessness of the pedestrians," he is reported as saying. That man stands a good chance to become as famous as the tire-shooting cop of a Chicago suburb—the other way.

Judging by the decidedly yellow tinge given automobile accidents in the Chicago Inter Ocean, there is a difference of opinion between the news editor who knocks the game in the front part of the paper and the man who writes the trade jollies in the pink sheet and solicits advertisements from the makers and retailers on the strength of his soft soap.

Chairman Morrell did a pretty good job at running a race, even if he didn't do a good one in selecting a team.

"To France the cup, to Italy the glory," says the New York Herald. That's the time the hammer whacked the nail on the right spot.

Chicago is still on the automobile map despite the fact she has had no holdups, no bump the bumps or any other eruptions of that sort for at least a month.

N N

No contest was held this week for the Dewar trophy. Only three entries were made. Evidently the people prefer the cup that cheers but does not inebriate.

England is coming to the front again, Clifford Earp having gone over to France and grabbed off a hill climb, just by way of showing France that the little island is not dead.

* *

Motor Age is going to credit Senator Morgan with finding more beach tracks. The senator says Motor Age is at the top of the head of the automobile papers, and this is worth some return.

If a man were to run in front of a locomotive, would the locomotive be blamed for the man's death? How long will it be before the press and the public

learn that it is dangerous to run in front of an automobile?

In the Chateau Thierry hill climb Earp, the Englishman, traveled toward heaven at the rate of 58 miles an hour. This is even a faster pace than the most rabid motorphobist in motorphobia-infested

Chicago would have the automobile owner travel the other way.

The village of Glencoe, III., made famous by placing bumps in the road to prevent scorching, is becoming converted. It proposes to raise the speed limit to 15 miles an hour, but it doesn't show why a fraction over 8 miles an hour was a dangerous speed heretofore and 15 miles a safe speed now. Still, automobilists ought to grin with pleasure at the new turn of affairs and hurrah for Glencoe. They might suggest that other places put in bumps if it will have unreasonable speed limits raised.



"LADIES" REFRESHMENT TENT AT THE RACE

EARP BEST IN CLIMB

Englishman, Driving Napier, Goes Up Chateau Thierry Hill at 58.5 Miles an Hour Clip

Paris, Oct. 2—The feature of this year's Chateau Thierry hill-climbing contest was the victory of W. Clifford-Earp on a six-cylinder 100-horsepower Napier. He climbed the kilometer on a 10 per cent grade, with a standing start, in 38½ seconds, or at an average speed of 58.5 miles an hour. This performance lowered Rigoly's record, in a Gobron-Brillié, by exactly 7 seconds.

Clifford-Earp's racer is one that ran for England in this year's Bennett race, securing ninth position. He brought it over to France a few days ago, coming down from Havre under his own power and to compete in the two or three races in which he is tated the tackling of a rather difficult bend just beyond the kilometer line. With the increased speeds realized by both racers and tourists it was found that this turn, quite safe 2 years ago, was now dangerous to send the racers and fast touring cars round this bend, and the climb was consequently stopped at the kilometer line for the big cars, although the slower vehicles were allowed to go the full mile up the hill because they could be slowed up before actual danger threatened at the bend.

Touring cars had seven classes provided for them, according to selling price, with one class for touring tri-cars, a motorcycle third of litre class, and competition for trucks. The \$800 to \$1,600 class and the less than \$800 class were run over the mile course, both being won by Boyer cars in 3 minutes 25% seconds and 5 minutes 30% seconds, respectively, which the other events were all run over the kilometer. The fastest time for the kilometer, standing start, was 55% seconds, accomplished



GENERAL VIEW OF CHATEAU THIERRY

entered. Stead, on a Mercedes, also marked a faster time than last year's record, climbing the hill in 39% seconds. Faure, with the same make of machine, was slower, taking 46% seconds in covering the kilometer. Pierorn, with a 1903 Mors racer, took 53% seconds, and the Automoto, driven by Lapertot, did not get up in less than 1 minute 7% seconds. Baron de Caters had entered his new Mercedes racer for the hill-climb and was duly started, but abandoned the test before he had covered more than a few yards, owing to his carbureter firing.

Hanriot, in a light Darracq car, entered in the 1,430-pound class, covered the kilometer in 41% seconds, being nearly 9 seconds faster than last year's time; while De la Touloubre, also in a Darracq, weighing less than 880 pounds, climbed the hill in 53% seconds.

The Chateau Thierry event is a brilliant example of the progress made in motoring. In previous years the racing events were run over the mile course, which necessi-



CLIFFORD-EARP AND HIS NAPIER

by a Panhard touring car with four persons on board, in the \$5,000 class. In the \$3,600 to \$5,000 class a Radia accomplished the climb in 1 minute 4% seconds, being the second fastest time. A Fiat car in the \$3,000 to \$3,600 class took 1 minute 7% seconds to climb the hill; a Svell 1 minute 40% seconds in the \$2,400 to \$3,000 class, and a Serpollet 1 minute 13% seconds in the \$1,600 to \$2,400 class.

ON PLAINS OF IDAHO

Tourist Megargel Passes Through Rabbit-Infested Land and Is Lost in Snow Storm

Arco, Idaho, Oct. 11-With the skins of two coyotes, killed on the lava desert. tacked on the sides of the car, the Reo Mountaineer, of New York, pulled into Arco late last night, having successfully withstood the hardships of the 65-mile desert run, without taking on water or getting stuck in the sand hills. The lava plains of Idaho, just covered by the Reo Mountaineer, extend from the Mormon settlement of Moreland, in Bingham county, to the village of Arco, in Blaine county, and are inhabited only by wild beasts, mountain lions, coyotes, wolves, bear, antelope, deer, wild cattle and wild mustangs. Three land-marks in the center of the barren plains are visible for 100 miles. These are three huge piles of earth and lava rocks known as the three buttes-Big Butte, Middle Butte and Little Butte. The trail to Arco runs between Big Butte and Middle Butte and a trail between Middle Butte and Little Butte takes one up the Lost river region, a section of country that abounds in mystery, chief among which is the total disappearance of a large river, which, after running several hundred miles, sinks into the ground and disappears entirely.

At Moreland, where the American Motor League tourists put up, the entire country is suffering from the jack-rabbit plague—a plague that any one of the plagues of Egypt would have been small besides, according to the stories of the Mormons settled there. No sooner is anything planted then the jack-rabbits eat it up. Fences are sunk into the ground to a depth of 3 feet, but the rabbits bur-

row under them. Dogs are kept in small herds to hunt them down the the country for miles around is strewn with pieces of rabbit fur, but for every one that is killed a dozen spring up to take its place. Regularly organized rabbit drives are held weekly and thousands -yes, tens of thousands-are killed in these drives, but still they increase.

When the Reo Mountaineer came into sight there were rabbits in front of us, rabbits to the right of us, and rabbits to

the left of us, scampering in every direction at the approach of the puffing car. Even the dreaded coyote is allowed to roam free over this section, as he lives on rabbit as much as he does on sheep and, as one farmer we passed him on the road during our journey yesterday afternoon expressed it, "every little helps."

We had several invitations to participate in rabbit drives, the farmers even talking of purchasing an automobile and taking off the muffler as a rabbit driver. We spent the night with a Mormon family on the outskirts of the great lava plain. Although the family was one that would have caused President Roosevelt to have thought twice before he expressed his now famous views on race suicide, we were given the best of everything and a bunch of youngsters turned out of bed to make

room for us. Sunday we lost ourselves. It was not entirely our fault, for we were misdirected and not coming to a ranch for some 15 miles, naturally kept on going wrong. When we finally came to an Indian encampment we had difficulty in making ourselves understood, for neither Fassett nor myself are very much up in Bannock Indian talk. Finally we were informed that we could reach Blackfoot by striking off across country and we attempted it, first running north to avoid a butte and then turning south to avoid a rocky mountain peak. We kept turning first one way and then another, fording stream after stream and eventually running into an Idaho snowstorm that stung our faces like needles. By this time we realized that we were lost-hopelessly lost and there was neither ranch nor man within 15 or 20 miles of us. One thing remained, however, and that was to follow our own trail back to Pocatello. This was finally accomplished, we arriving there guided by our searchlight, a little before midnight, hav-

having accomplished nothing.

Arco is a little settlement in the midst of the lava hills, boasting of a store, three saloons, a water tank, pool room and hotel. The latter, strange to say, is well kept and we really enjoyed clean sheets and two good meals, the Jap cook certainly knowing his business.

ing put in the hardest kind of a day and

Gasoline in this section of the world

comes in 5-gallon tin cans, sealed. The price ranges from 35 to 60 cents a gallon, according to the greediness of the particular store keeper you purchase from. Gasoline, however, we must have, no matter what the cost, and the store keeper, knowing this, puts his price accordingly. We have arranged a couple of iron loops on one of the side steps of the Reo Mountaineer, on which we carry two 5-gallon cans in addition to the 10 gallons the main tank carries. With this

amount of fuel we feel comparatively safe for a 200-mile mountain trip, or a 300-mile run across level country—a specias of country unknown in Wyoming, Idaho or Oregon, where our little caravan has all sorts of wild adventures in its search for the best route between New York and San Francisco. While we are enjoying these incidents will welcome civilization again.—Percy F. Megargel.

FRENCH CARD MADE UP

Race for Tires and Monster Tour of Europe Planned for 1906 By the Automobile Club

Paris, Oct. 5-Three decisions only have been arrived at by the committee of the Automobile Club of France united to consider the program for 1906. France will not compete for the Vanderbilt cup next year, whether it wins or loses this month. A tire competition will be held next year, and a monster touring event of over 3,000 miles through the various countries of Europe will also be organized. No decision was arrived at regarding road racing; indeed the matter was not even discussed and no one can yet say whether an important road race will be run or whether France will abstain entirely from such events, according to her announcement.

road racing, the tire manufacturer choosing his car instead of the automobile constructor selecting his make of tires. An equal number of tires will be allowed each competitor, repairs may be executed by the usual equipment carried on board, but all the tires stamped at the beginning of the race must be presented at the end of the run. It is probable that the event will consist of two daily runs of 500 kilometers each, the complete set of tires arriving first winning the tire competition. The French tire manufacturers all declare that the competition will be one very difficult to organize. Quite apart from the length of life of a tire according to the way in which the car is driven, there is the question of cars of different weights and different builds which will all influence the final result. They also want to know whether a car coming in first on the rim will be placed before a car arriving laterwith its tires still in good order.

The great touring event has been



A MEGARGEL EXPERIENCE IN IDAHO brought forward by the Marquis de Dion,

The tire competition has been under discussion unofficially for some time. In this novel event it will not be cars that will be entered, but a set of tires or wheels, the competitor making his wheels travel by means of any motor he likes, with, of course, reserves as to weight, and having full liberty to change anything or

everything apart fro mthe times. It is, in

fact, an inversion of present methods of

MEGARGEL'S ARRIVAL AT THE LITTLE TOWN OF ARCO

vice-president of the club and head of the firm of De Dion, Bouton & Co. The marquis has little love for road racing, but he is wildly enthusiastic on touring and industrial vehicle competitions. It is his opinion that existing touring tests are not of a sufficiently exacting nature. Any ear can cover a distance of 600 miles, but the automobile that will run from Paris through France, Italy, Austria, Germany, Belgium and back home will indeed be worthy the name of a touring car. Preparation on a gigantic scale will be necessary to make such a tour successful, but when once the Automobile Club of France has pledged itself to organize any event it is not deterred by any surmountable difficulties and will push through to success, for the makers here want to show the world that they can duplicate their successes in the Bennett race when it comes down to touring. If they can draw under their banner motorists from all sections of the globe will rest content.

FIAT FINDS FOOTING

Italian House Founds British Company-Radical Changes in English Trading System

London, Oct. 7-The process of preparing in grim earnest for the expected struggle for the English market is developing with something like rapidity. The Fiat concern, of Turin, has formally founded a British company with headquarters in Long Acre, London, to handle and market these cars only. The French firms of these cars only. Brouhot, Chenard-Walcker, Gobron-Brillie and Mors have also taken this step, while Panhard & Levassor, Clement, Gladiator, Mercedes, Richard-Brazier and Peugeot already have had their sole agents in England, most of these controlling the trade for the British colonies also. On the other hand. British firms are also endeavoring to employ retailers who can have no other interests to push. The day is fast passing when one retail firm can offer its customers any one of a dozen or so leading makes-from the catalogue. Customers now want to see the actual car they are asked to purchase, or a duplicate, and as some of these are costly and not free selling, the stock necessary to handle more than a couple of agencies is more than most firms can lock up in this manner.

Another tradition which is passing away is the necessity to put down one-third of the purchase money with the order and then wait 3, 4 or 6 months for delivery. That was originally instituted by the French manufacturer as "earnest money" to be forfeited if the bargain remained uncompleted. Then it developed into being an insurance of delivery in turn, but now it is being kicked against, and so British firms are able to accept the orders of their customers without stipulating for any deposit it is certain that the French trade will in the end also lose this form of capitalization. It has been stated that about a year or so ago £3,000,000 of the customers' money was lying in the banking accounts of a few of the leading automobile firms as deposits on cars, many of which could not be delivered under from 6 to 7 months. Of course, reforms of this nature are not being effected without a struggle, but the advent on the scene, and his importance to the trade, of the man of strictly moderate means has had its effect. The motor trade now requires more capital than ever to run it and infinitely more sound commercial management than it has, with but few exceptions, received.

One matter upon which firms of standing have long taken a firm position and which has helped to build up the trade of less scrupulous concerns has been the system of blackmail by chauffeurs which we imported from France among our automobile manners and customs. It is customary for many firms to give the wideawake, i. e., dishonest, driver a commission on all the business he brings these firms, consequently he is keenly on the lookout to divert trade from firms that do not subsidize him in this way to firms which do. The firms which make this business policy, of course, recoup themselves out of the proprietors of the cars, often with heavy profit, sometimes by transactions which would not stand legal investigation. The evil is a great one, not so much from its cost as because it leads up to baseless dissatisfactions with honest traders and the glossing over of real faults-all making for the hindrance of automobilism. Like the social evil, it is perfectly understood but seldom alluded to. The Argyll company, of Glasgow, however, has taken the bull by the horns in the matter on opening a new and extensive depot for its cars in the west end of London, which is being run by a separate company formed to exploit the Argyll car only. In large and flaring advertisements they announce that under no circumstances will a tip be given to a chauffeur, but no doubt in order to maintain his good will they propose to give a prize of £5 and a certificate to every driver who runs an Argyll car, purchased from this subsidiary concern, for 5,000 miles at an inclusive cost for gasoline, oil, grease, tires and car repairs rising from £42 for a 10-12-horsepower car up to £62 for a 24-30-horsepower vehicle. This is not a bad idea, as it seems to fix a standard of economy which will keep the chauffeur's wits alert to maintain and which is low enough to entice purchasers to the Argyll depot. But it is no cure. The dishonest driver will not worry over a £5 note for 2 or 3 months' work when he can get as much from his pet retailer for the simple asking. To the honest chauffeur it will be an incentive, however, for the certificate alone will be of great assistance to him in obtaining fresh employment in his profession.

ROAD INVESTIGATING JAUNT

New York, Oct. 17-A thousand-mile journey by the joint committee on good roads of the New York legislature will begin at 8 o'clock this morning, starting from the Murray Hill hotel, with the first day's run terminating probably at Lenox, Mass. Senator W. W. Armstrong is the chairman of the committee, but he will not be able to join the party until the latter part of the week. The tourists include Senators Allds, Malby, Warnick, Keenan and Grady and Assemblymen Hooker, Merritt, Moreland and Cook. State Engineer Van Alstyne will also be included in the party, which at Worcester will be met by W. E. McClintock, chairman of the Massachusetts state highway commission, while later in the journey at Hartford State Highway Commissioner MacDonald, of Connecticut, will be another addition. Chairman Morrell, of the American Automobile Association racing board, who is an enthusiastic tourist, will be the pathfinder of the expedition, and will drive his Locomobile. A. W. Church with a Decauville. Walter White with a White steamer and Robert E. Fulton with a Pope-Toledo, will be the other pilots.

DEWAR EVENT POSTPONED

New York, Oct. 17-Senator Morgan has had to abandon the proposed running of the race for the Dewar cup at present. It was set for tomorrow morning in the Coney Island boulevard. The Ford had broken a shaft in practice, and Keene, Christie and several of the foreign cars had been put out of commission by Vanderbilt cup race accidents.

COAL TAR FOR ROADS

Experiments with French Methods of Making Dustless Highways Are Held in New Iersey

Washington, D. C., Oct. 14-Coal tar for use in highway construction in the United States is being brought to the attention of the good roads advocates of this country, it being claimed that a road treated with the tar is dustless, noiseless, will not side wash, will resist wear and always presents a smooth, uniform surface. France has been using the tar for several years in the construction of her highways and since the attention of Americans has been called to the fine points of this tar road makers' experiments have been made in this country which so far have been reported satisfactory. It was the Hon. Robert P. Skinner, United States consul general at Marseilles, France, who called the attention of the government to this use of coal tar through the medium of a special report, which has been published by the department of commerce and labor in the daily consular reports, No. 2073 issued by the government.

In this report Mr. Skinner describes the methods used by Road Commissioner Girardeau, of Fontenay-le-Comte, who has written a complete pamphlet on the subject containing much that is of pertinent interest to those interested in good roads and the suppression of germ-carrying, comfort-destroying dust that is so prevalent on the majority of even the best highways in America. Mr. Girardeau states that he was prompted to experiment with coal tar on road surfaces, through frequently noticing that where tar had been accidentally spilled on the road it left inextinguishable black stains. The road was preserved longer in these spots than anywhere else and the black stains soon appeared in relief. The first experiment made was in July, 1896, on the road from Sucon to Aiguillon-sur-Mer. The tar was spread on cold and covered with dust of the road. The result was decisive. Two years after this experiment the tarred part was 2 centimeters higher than the balance of the road. This much frequented road is flat, covered with a quartzitic material, and established on clay. The success of this experiment led to a number of others, all of which were eminently satisfactory. Since 1898 it has been recognized as advantageous to use hot tar.

Two notable examples of the use of coal tar on American roads are cited by good roads advocates. The first test was made on a section of macadam road at Westfield, N. J., in September, 1903, and the other at Montelair, N. J., just a year ago. The French system was used at Westfield, the only variation being that fine screenings were spread on the surface after tarring instead of a sand, as is used abroad. Owing to the lateness of the season the conditions were unfavorable. The road operated on had not been refilled for several years, and was given but a superficial sweeping before being treated. An examination of this road a year later showed that the treatment was satisfactory, it is claimed. The center of the road, on which fairly clean screenings had been used on top of the tar, was in perfeet condition, the surface being as hard as the ordinary concrete tarred walk and as smooth as a floor. On the side of the road there had been some wear and a consequent accumulation of dust. It was held that this road should be treated at once and repeated every 2 years after, only using half the amount of tar as in the first two operations at the outset.

The experiment at Montclair was conducted by Malcolm H. Smith, superintendent of road and sewers, 1,000 feet of macadam road being treated with the tar. It was not until the last 500 feet were reached that the operation could be conducted in a regular manner so that a basis for an estimate on labor, tar and stone could be made. This demonstrated that the road could be treated with tar at a cost of 18 cents per lineal foot, 16 feet wide, the various items being as follows: Material, nine barrels of coal tar, \$45; four loads, 7 yards dust, at \$1.90, \$13.30; labor, 2 days, for tar, \$8; labor, 51/2 days, men at \$1.50, \$8.25; labor, 2 days, foreman, \$5; labor, 2 days, 10-ton steam roller, at \$5, \$10; total, \$89.55.

One of the great difficulties that had been experienced there outside of the dust was the washing of the roads, owing largely to the steep grades on many of the streets. It was largely to overcome this, as well as lessen the regular wear and tear that this experiment was made. At the time this work was first inspected, about 600 feet had been completed, which took between 13 and 14 barrels of tar.

PURDUE TO TEST POWER

Lafayette, Ind., Oct. 16-The new automobile testing plant in the mechanical engineering department of Pur-due university is now nearing completion, and within a few weeks the experiments will begin. The object of the new department of experimental engineering is to test for the consumption of fuel, horsepower delivered at the wheels and general efficiency of the machines under examination. The automobiles which will be delivered in running order at the university will be mounted on a stationary platform with the rear or driving wheels on a truck which is stationary in one sense, but which revolves with the wheels of the motor car. To this truck is attached a dynamometer for measuring the power developed and a brake horsepower device, which measures the net power output or power delivered to the truck. This, with the amount of fuel consumed in a given time, will give the general efficiency of the machine. The work of erecting and equipping the department is under the supervision of O. C. Klipsch, who was formerly with the General Electric Co. He succeeds Professor McColl. The automobile testing plant will eventually be turned over to seniors in the school for mechanical engineering, who will conduct these tests for their thesis work. They will test the various makes of steam and electric motor cars, and in testing the electric cars they will have the co-operation of the electrical engineering department. Automobiles for testing have been promised by the leading manufacturers in the country. When the plant is completed it will be in charge of Professor C. A. Young, O. C. Klipsch and W. O. Teague, all experienced men.

EARP IS AGAIN STAR

Englishman and Napier Capture Honors at Dourdan—Cissac is Motor Cycle Hero

Paris, Oct. 9—Dourdan, although not now one of the most important of French meetings, is still an official circuit, recognized by the Automobile Club of France. Faster times are done elsewhere, and despite its officialism, Dourdan will probably in future have to give way to more rapid tracks. Yesterday's races resulted in a victory for Clifford-Earp in the six-cylinder Napier car, the Peugeot doing well in the motor cycle class, and the Darracq in the light car class.

Earp did the standing mile in the heavy car class in 53 4-5 seconds and the standing kilometer in 25 3-5 seconds. His nearest competitor was Faure in a Mercedes, who did the mile in 1 minute 8 4-5 seconds and the kilometer in 34 3-5 seconds.

Hanriot romped away with the event for light cars weighing from 880 to 1,430 pounds, doing 1 minute 32-5 seconds and 292-5 seconds for the mile and kilometer respectively. De la Touloubre, in a Darracq, won the race for light cars weighing from 550 to 880 pounds, his mile being done in 1 minute 131-5 seconds and the kilometer in 381-5 seconds.

In the competition for motor cycles weighing from 110 to 550 pounds Guippone, on a Peugeot, won with 57 seconds for the mile and 28 seconds for the kilometer. Buchet, on an Anzani, was second in 1 minute 84-5 seconds and 34 2-5 seconds, and Chauret, on an Aleyon, third in 1 minute 36 4-5 seconds. Cissac, on a Peugeot, did the flying mile in 53 1-5 seconds and the flying kilometer in 27 3-5 seconds in the class for motor cycles weighing less than 110 pounds. Champoiseau, on a Peugeot, was second in 59 seconds and 28 4-5 seconds; Guippone, Peugeot, third in 1 minute 11-5 seconds and 28 4-5 seconds, and Anzain, on a Buchet, fourth in 1 minute 10 2-5 seconds and 34 1-5 seconds.

It is interesting to note that the time of the six-cylinder Napier for the flying kilometer is exactly that of the two-cylinder Peugeot motor cycle ridden by Cissac at the Blackpool, England, meeting a short time ago, namely 253-5 seconds. Yesterday Cissac rode the motor cycle on which he established his world's record at Blackpool.

Tourists were provided for in nine classes. The Peugeot, with Guippone as rider, again won in the motor cycle class. A Berliet car, with Bablot as chauffeur, was the fastest of all the four-seated cars, covering the standing mile in 1 minute 12 seconds and the flying kilometer in 35 4-5 seconds.

NOW FOR HIGHER SPORT

New York, Oct. 16—The Aero Club of America was formed at the A. C. A. tonight and the following officers elected: President, Captain Homer W. Hedge; first vicepresident, John F. O'Rourke; second vicepresident, Charles J. Glidden; treasurer, Augustus Post; secretary, S. M. Butler. The club was formed to advance the development of "the science of aeronautics and kindred sciences and to encourage all kinds of aerial navigation, conferences, congresses and races," to quote Captain Hedge. The club has already been officially recognized by the Aero Club of France and the Aero Club of the United Kingdom. Negotiations are now under way to secure recognition by the Aero Club of Germany and similar bodies in other foreign countries.

Courtland Field Bishop has been appointed the representatives of the Aero Club of America at the International Congress of Aeronauts, which is now in session in Paris. The club already has nearly the full complement of founder members. Among those who enrolled last night were:

Dave H. Morris, Charles J. Glidden, John F. O'Rourke, John F. Carroll, Samuel T. Davis, Jr., Thomas L. Watson, Robert Lee Morrell, Cortland F. Bishop, Augustus Post, Homer W. Hodge, S. M. Butler, A. G. Batchelder, Robert Scott, A. L. Riker, Alan R. Hawley, Norman F. Cuntz, William Hawley, Emerson Brooks, C. T. Adams, Harry J. Everall, Orrel A. Parker, George P. Butler, William H. Butler and A. H. Whiting. Most of them are prominent motorists.

SIDDELEY IN THE SADDLE

London, Oct. 4-The fusion of the Wolseley and Siddeley automobile companies has been accompanied by the resignation of the general manager of the former and the sole control of the management is now in the hands of J. D. Siddeley, who is a Dunlop Tire Co. man who was early in the automobile field and had the good fortune to enlist the support of one of the Rothschilds, who had become an ardent motorist. Mr. Siddeley's commercial success was primarily due to the fact that he induced the Wolseley company to build his cars after his own idea. The company had gained a high reputation for reliability in public competition and in the hands of private individuals. But their cars were fitted with horizontal engines, and Mr. Siddeley's astuteness arose from the fact that he induced the Wolseley firm to build him a vertical-engined Wolseley, which not only sold and went well, but commanded better prices than the Wolseley cars. His success was so apparent that after 8 years' trading Vickars Sons & Maxim, who own the Wolseley company, bought in the venture and trade under both names.

CHIEF KNOWS WANTS

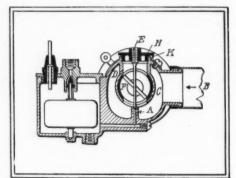
Washington, D. C., Oct. 12-The house warming and smoker of the new Automobile Club of Washington at the Villa Flora club on the evening of October 9 brought together the largest bunch of automobilists the capital city has ever seen. More than 100 cars were parked on the lawn. Major Sylvester, chief of police, who was one of the speakers at the banquet, made a hit with the crowd when he suggested in the course of his remarks that all vehicles should be marked with a number and carry lights at night, the same as automobiles. The police regulations will no doubt be shortly amended to so include all vehicles in these particulars. Judge Kimball pointed out where many automobilists unwittingly violate the regulations.



reverse planetary transmission, single chain drive and possesses several minor points in construction such as trussed axles, pivotal rear springs and easily repairable radiator that are meritorious.

The angle steel side pieces in the frame are braced together by angle pieces in several places and one heavy arched channel piece carries the cylinder end of the motor. In the spring suspension full elliptics in the rear are pivoted at the top on the ends of a cross shaft made rigid with the frame pieces, and radius rods, also pivoted at each end, extend from the axle casing to brackets on the frame just behind the line of the crankshaft bearings. The front springs, three-quarter elliptic, have the upper leaves bolted direct to the bottom part of the frame angle, the bolts passing through the ends of the leaves. The long leaf in the bottom part of the spring instead of being shackled at the rear end to the frame is made into a loop about 4 inches long and 1 inch wide and through this loop is the supporting bolt, held in place by a bracket on the frame. Surrounding the belt is a flat coil spring similar to a Hyatt roller bearing, for eliminating all friction occasioned by the spring movement. The method of support is exactly similar in its action to a sliding block with a roller bearing. The front axle is tubing, with jaw steering knuckles secured at the ends and a truss rod fastened to the lower part of the jaw and passing beneath posts on the bottom of the spring seatings for assisting in supporting the axle. The rear axle is of the divided live type, with a spur gear differential in the center, the bevels on the differential being rigid with their respective halves of the driveshaft. Double truss rods, one passing beneath the center of the differential casing and the other slightly to the front, aid in carrying the axle. Long roller bearings at either side of the differential casing carry the drive shafts and above each is an oil cup for lubrication, The road wheels are 28 by 3 inches, pneumatic tires of standard make being the regular equipment. The tread is standard, the wheel base 78 inches and the weight approximates 1,100 pounds.

The motor, carried on the left side of the car, with the head beneath the footboard and the crankcase under the seat, has a bore of 4% inches and a 6-inch stroke, generating its rated power at 1,000 revolutions per minute. The support is through two cross pieces of the frame, an arched channel piece near the cylinder head, to which the cylinder is suspended by bolts, and at the rear the case itself terminates in a broad leaf, which is bolted to an angle cross piece. The cylinder is an integral castings, with the crankcase open at the ends and bearing plates bolted thereon. The valves are in the top part of the cylinder head, the inlet at the right and exhaust at the left. Both are mechanically operated from a camshaft carried in the top part of the crankcase, a peculiar feature is the shape of the crankcase owing to the push rods being enclosed, and a further precaution is taken by having a metal cap fit over the valve stems and springs for excluding the dust. The cap is held in place by a thumb screw. The valves are removable through inspection holes in the cylinder head, the inspection caps screwing in place. The crankshaft carries a couple of balance weights and revolves in bronze bushings. In the illustration of the vertical section of the motor and transmission gear it can be noted that the crankshaft is continuous from the left side of the crank case to the outside of the gear case, answering as a shaft for the gear case as well. Both motor bearings



VERTICAL SECTION OF REO CARBURETER

are long, that next to the flywheel being slightly the longer.

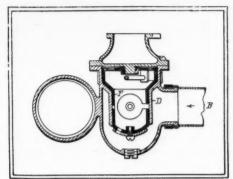
The new Reo carbureter follows the design of separate float chamber, the float stem carrying a needle valve on its upper end for controlling the entrance of gasoline from the fuel tank, and having in one side of the top of the chamber a flushing rod, held up from the top of the float by a coil spring but the tension of which is easily overcome by the pressure of the hand on the end of the rod. The mixing chamber is a cylindrical space with the spraying nozzle slightly raised from the center at the bottom, the air entering through a screened opening at the side opposite the float chamber and the mixture passing to the motor through a throttled opening horizontally placed at right angles to the air inlet. The carbureter is so adjusted that when the motor is not running the gasoline in the spraying nozzle rises to 1-32 inch lower than the top of the nozzle. The air entering through B fills the ring-like space C, within which is a casing D for carrying the barrel-shaped throttle F with a circular opening surrounding the spraying nozzle and another diametrically opposite to it for controlling the passage to the motor. When the throttle is wide open, these openings are one above the other, the throttle one on top, but with reduction in speed, the barrel being turned, the air opening around the nozzle is reduced until a mere slit in the barrel for the needle valve remains and a similar slit permits mixture passing to the motor. In the end of the barrel is an adjustment disk for admitting more air within the barrel than that passing the nozzle and thereby giving additional air without increasing the suction around the nozzle and drawing out too much mixture. This disk can be adjusted from the outside of the carbureter casing. The ease with which the needle valve in the nozzle can be adjusted is a feature of the carburation scheme. The stem E terminates without the casing in a circular plate H with toothed edges and by turning the plate to right or left the needle is lowered or raised within the nozzle and the flow of gasoline restricted or increased. In order to hold the plate in its proper position a spring K is arranged to enter the teeth on the plate and retain it against turning. The carbureter is attached direct to the inlet valve opening, all piping being dispensed with. Air is taken in through a short horizontal screened pipe.

Ignition is by jump spark, the spark plug being placed horizontally in the cylinder head. Beneath the bonnet are two sets of dry cells, and on the dash is a vibrator coil and a two-way switch. The timing of the spark is controlled by a horizontal lever on the steering column. For lubrication there is provided a large glass oiler on top of the cylinder. The oil passes into the crankcase and is dis-

tributed by splash.

The transmission system consists of a we-speed planetary transmission. To the ght of the flywheel is the sprocket A for hain drive to the rear axle. The sprocket s not rigid with the shaft B but attached the sleeve C carrying the gear D. In the center of the gear case is the drive gear E keyed to the shaft and through which the drives are gained. For the high speed ahead the high speed cone M is forced within the dogs N, forcing them asunder and at the same time locking the entire gear case with the shaft giving direct drive. The spring O assists in re-leasing the clutch. For slow speed ahead the inside band is brought into use and the drive is through the gear E to F and through G to D and D being on the same sleeve as the sprocket A the drive is com-The different speeds are gained through the use of the side lever and a foot pedal, the former in its forward position giving direct drive and slow speed when back, with the neutral midway. A pedal is used for the reverse. All gears within the case run in oil, oil cups being provided for that purpose.

Motor cooling is by water circulation maintained by gear driven pump on the left end of the crank shaft. The pump connects with a pipe from the water tank beneath the bonnet and with another running to the water jacket near the exhaust valve. From the top of the radiator is a pipe connecting with the tank and the bottom of it is piped with the valve port adjacent to the inlet valve. The radiator consists of horizontal flat tubes arranged. in sets of four and with a dozen sets. Viewed from the front the radiator looks like so many single flat tubes running from side to side and joined at the ends, but a look shows that what appeared as one tube is in reality four tubes side by side, each connecting in the same cross tube connection at the ends. These four constitute one set of tubes and the twelve sets are placed one on top of the other with connections between the sets made at the



HORIZONTAL SECTION REO CARBURETER

cross tubes in the end. The connections are made so that it is easy to take one set out should a pipe in it become damaged and the remaining pipes would then work equally as well, the feature of its construction being this method of taking out injured tubes when on the road and then proceeding with a perfect radiator. It forms the front of the bonnet.

The steering is through a Brown-Lipe irreversible worm gear with the rod connecting the knuckles passing behind the axle. The muffler, of Reo design, is long and cylindrical, hung lengthwise at the right side of the cylinder, the front end so close to the exhaust valve that only an elbow of piping is used for connecting them. A cutout is provided. Two band brakes are provided on the rear hubs, being the only ones used. They are double acting and applied by pedal. A small pedal for compression relief to be used in cranking is also furnished.

The body work is finished in green with light running gear. The individual seats are heavily upholstered and the back platform is removable and ordinarily carries a half oval-shaped carrying compartment, the latter, however, is removable and in place can be attached a platform for a folding gear seat giving the runabout a carrying capacity of four. When folded

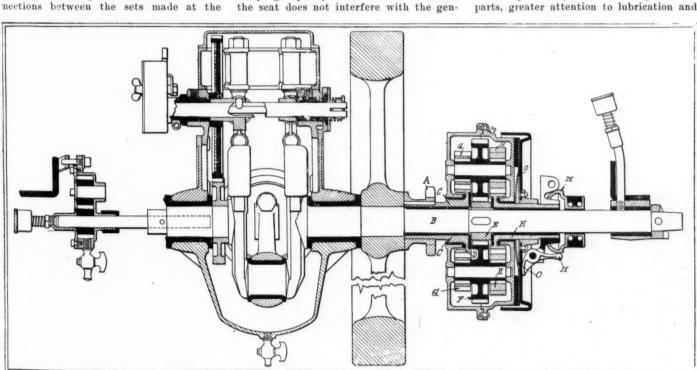
eral lines of the machine. The bonnet is held in place by four thumb screws but has side doors for reaching the battery and a top one for filling the water and gasoline tanks. The headlights are attached to it and removable with it, removal only being necessary when repairing the radiator or tanks.

The speed change lever does not extend to the footboard, but works on a shaft beneath the seat, connecting rods being used between the shaft and the bands around the transmission drums. Very small fenders are used over the rear wheels.

The Reo company also has ready for 1906 its 16-horsepower, two-cylinder car, with the motor placed lengthwise in the center of the car. The machine has accommodations for five passengers, has double side entrances, 90-inch wheel base and weighs 1,550 pounds.

NEW MITCHELL MODELS

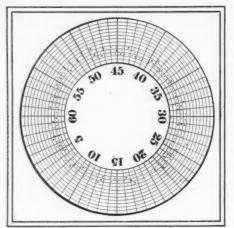
Four models are included in the 1906 line of the Mitchell Motor Car Co., of Racine, Wis. Two of these, an 8-horsepower, two-cylinder runabout and a 20horsepower, four-cylinder touring car, are last year's machines with some changes, and innovations as well, but the other two are new ones. The smaller one is a fourcylinder runabout to be rated at 14 horsepower, with cylinders with a bore and stroke of 31/2 and 4 inches respectively. The other is a 28-horsepower touring car driven by a four-cylinder, vertical motor. In all of these models no radical changes are to be found, but such alterations as new radiator design and changes in the shape of the hood improve the appearance considerably. Such construction as pressed steel apron extending from the front of the car to the rear of the transmission, protecting all working parts, is new. A foot accelerator is used for controlling the speed of the car and the transmission has been improved by more carefully finished parts, greater attention to lubrication and



WATER PUMP

VERTICAL SECTION REO HORIZONTAL MOTOR

TRANSMISSION SET



DISK CARD OF BULLARD SPEED RECORDER

other ways. In addition to its general pleasure line the company is pushing through over fifty of its light trucks and delivery wagons. Bodies in two styles are being fitted to these, one intended for express work and with the seat placed high in front directly above the engine, and the other an enclosed delivery with the seat in the rear of the motor, which is covered with a bonnet as in the touring cars. The company during the coming season is arranging to put out 100 of the two-cylinder runabouts, 300 of the four-cylinder runabouts, 200 of the 20-horsepower cars and the same number of the larger touring machines.

RECORDS ALMOST EVERYTHING

A speed recording instrument which records on a disk of paper the speed a car travels and the exact minute of the day at which the speed is made, should be a good weapon of protection against the ready timing police officials who swear by stop watches against all comers. Such an instrument is marketed by the Reading Automobile Co., of Reading, Pa. J. H. Bullard is the inventor.

The device consists of a clock-like movement, with other appliances, which are connected to the sprocket on the driving wheel of the automobile. The device carries a circular paper card on which, while the car is running, is noted a record of the speeds made and the hour at which they are made. The marks made on the card are perforations. Four perforations represent a mile traveled and as each fourth perforation is heavier than the intervening ones it is easy to read the number of miles. The card has fourteen concentric circles, with twelve intervening ring-like spaces. Each ring-like space represents 1 hour. The ring-like spaces are divided by sixty radial lines into as many spaces, each space representing 1 minute. Within the inner circle are the figures 5, 10, 15, etc., up to 60, representing the minutes in the hour, as on a clock face. The card is secured to the clock mechanisms so that as the hands of the clock revolve so does the card, but the perforating needle remains stationary and makes a perforation in the card at the end of every 1/4 mile. The card with its twelve ringlike spaces and each divided into sixty spaces represents 12 hours and will register for that period. The record of the first hour is shown in the outer circle of spaces and that of the 11 succeeding hours in the spaces towards the center of the disk. Arrangements are made so that at the end of each hour, or when the perforation needle comes to the line marked 60, it passes into the next ring-like space.

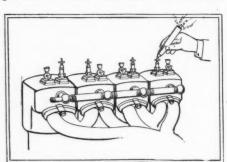
The card illustrated represents an actual journey from Worcester to Springfield, Mass. The reading of the record is accomplished by placing it with the figure 45 at the top and then looking at the outer circle of perforations or dots. The start was made at 47 minutes past the hour, represented by the circle carrying the dots, which, if the disk had been attached to the clock at midnight, would mean at 47 minutes after 7. The first puncture was 1 minute later. The card not being set correctly in the instrument the stylus changed into the next inner circle at the left of the 55 line instead of at the left of the 60 line. This makes the first puncture at the left of the 55 line as the beginning of another hour. By following the dots in this circle the performance of the car during the first hour of the trip can be found. With one dot in a space, each space representing 1 minute and each dot 1/4 mile, the speed of the car was 15 miles per hour and practically 14 miles were made in the hour, there being that number of heavy dots. In the last part of the journey, two dots are shown in each space between the figures 25 and 45 or in a period of 20 minutes showing the speed to be 30 miles per hour. With three dots in each space the speed would be 45 miles per hour and with four in each the machine would be running a mile-a-minute clip. The record shows the distance, found by counting the heavy dots, to be 501/2 miles between Worcester and Springfield.

When a stop is made with the automobile the instrument ceases to perforate the card, which continues, however, to revolve and the length of the pause can be calculated by counting the number of nonperforated spaces between the last perforation when the stop was made and the first one when restarting. The instrument because of this feature could be used to advantage on livery and delivery wagons where the owners would want a record not only of the speeds made, the times in which they are made, but the length of stops and when they accounted

stops and when they occurred.

NOVEL SPARK TESTER

Discovering if a charge of gas is firing properly without removing the spark plug or in any way interfering with the wiring of the motor is what the Smith spark tester, a product of the Duck Brake Co., of New York City, is designed to accomplish. The Smith tester is a little tubular



How Smith's Spark Tester is Used



FRONT VIEW BULLARD SPEED RECORDER

device, lead pencil-like in shape, with the pointed part insulated and the handle part a brass tube, in which flashes occur when testing a cylinder. The tester does not follow the construction of a spark gap or intensifier but is claimed to be scientifically constructed with the object of not injuring the coil when used in making a test. To test a plug the tester is placed on the end of the spark plug or any uninsulated portion of the secondary wiring or coil and a bright flash will be seen in the tube each time a spark takes place on the sparking ends of the plug. The tester is held in the hand when being used and the variations in the spark or flash within the tube indicate peculiarities of the spark within the cylinders. If no flash occurs when the tester is on the top of the plug the porcelain may be injured or the points sooted. Flashes of too great intensity are interpreted as due to imperfect condition of the contacts of the commutator, continual flashes indicate a weak battery, poorly adjusted vibrator, defective coil, leak in the secondary wiring or the sparking points of the plug too close together, and a light shock, experienced by the person holding the tester, could be traced to a too wide spark gap at the end of the plug or an excessive amount of battery. Persons susceptible to electric shocks can avoid such by connecting the brass tube of the tester by means of wire to any part of the metal work of the car. The maker claims to be able to make use of the tester in adjusting the coil vibrators by placing the insulated point of the tester on the terminal of the coil leading to the spark plug while making the adjustment, the best point being when the brightest light appears in the tube.

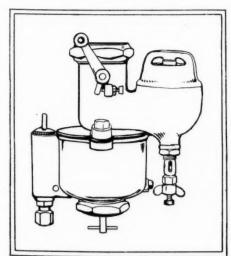
HOLLEY'S NEW CARBURETER

Model E, the 1906 carbureter manufactured by Holley Bros. Co., of Detroit, Mich., possesses as its leading features a cylindrical float, with the spraying nozzle in the center; a spring controlled compensating air valve for use on high motor speeds, and either a horizontal or vertical outlet for connecting the pipes to the motor, making the carbureter well adapted for either horizontal or vertical motors.

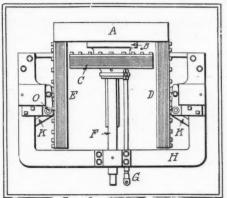
Viewed from the outside the carbureter consists of two parts—a circular float chamber at the bottom, with a slight expansion on one side for containing the needle valve, and an upper casting, slightly

shaped, with the exit to the motor at he top of one arm of the U, the compenating air valve at the other and the union with the float chamber at the bottom. Air nters through A, a passage which is always open, mixture passes to the motor. brough the exit B, additional air enters through C, the pipe E connects with the gasoline tank and L is the needle valve for regulating the flow of gasoline and is controlled from the float D through the medium of the lever H fulcrumed at T. As gasoline enters, the float rising as a consequence, allows the lever to trip on its fulerum, which permits the needle L to lower, closing the passage and stopping the entrance of fuel until that within the float chamber is consumed, when the float lowers, and resting on the lever, lowers one end of it, at the same time raising the opposite end attached to the needle valve and opens it. The union E from the gasoline tank slides into the bottom of the carbureter casing, some packing is used and the packing nut S is screwed in place, a construction permitting the removal of the carbureter with comparative ease. The rate of flow of the gasoline through the spraying nozzle is controlled by the needle point on the upper end of Q, a few turns of which to the right will shut off the entire flow of fuel and a turn or so in the opposite direction will give the required amount of fuel On the bottom is a cross head for facilitating its adjustment.

The mixing chamber M is considerably restricted at the nozzle and a short distance above, and beneath the nozzle, is shaped cone-like, causing the inrushing air to focus practically at the top of the nozzle, the meeting currents of air practically atomizing the gasoline. Directly above the nozzle and in the top of the mixing chamber is the exit to the motor controlled by a throttle, the lever R being for connecting the throttle either with governor or lever on the steering wheel of the car. At slow motor speeds sufficient air enters through A to satisfy the motor, but with speeding the suction of the cylinders is beyond the capacity of A and the compensating valve N begins opening, the motor suction being sufficient to overcome the tension of the spring O, which holds the valve on its seating. The adjustment of the valve is one of the features of it.



EXTERIOR VIEW HOLLEY CARBURETER



DETAIL OF THE GEARLESS TRANSMISSION

When too weak mixture is obtained the thumb nut P is loosened and the screw raised thereby restricting the maximum opening of the valve, the bottom of the valve stem coming in contact with the top of the screw.

A GEARLESS TRANSMISSION

Friction transmission of power from the motor to the driveshaft in an automobile has a new exponent in the Gearless Transmission Co., of Glen Falls, N. Y., which has a type in which a clutch is used within the flywheel to flexibly connect the crankshaft with the driveshaft for direct drive on the high speed when the friction wheels are not used and do not even revolve. On the back face of the flywheel A is the band clutch B, so designed that it can by means of a pedal be made to connect the driveshaft F with the crankshaft carrying the flywheel and at the same time the friction disks E and D are moved away so they are neither in contact with the friction wheel C or the face of the flywheel A. This makes the direct drive the same as in a car with a sliding, planetary or individual clutch transmission, friction wheels not being used in the transmission of the power.

For all speeds other than direct drive the friction disks E and D have their peripheries in contact with the back face of the flywheel near its periphery. This causes the disks to rotate in opposite directions, being in contact with points on the flywheel diametrically opposite to each other. Between the disks is the friction wheel C, splined on the transmission shaft F. The wheel can be moved backward or forward through the medium of the shifting rod G. The periphery contacts with the faces of the friction disks, the latter being at opposite sides of it, and, revolving in opposite directions, impart movement to the wheel in the same direction. With the wheel in the position shown in the illustration-that is, contacting with the friction disks near their periphery-the fastest speed other than direct drive is obtained, and as the friction wheel C is pulled backward closer to the axes of the friction disks the speed of the same is reduced until in line with the axes, when it will be motionless and when in the rear of the axes a reverse speed is obtained. Contact between the disks and the friction wheel is gained by moving the disks against the wheel, accomplished by the pedal levers K, of bell crank shape, pivoted at O and with one end attached to a

yoke working on a collar on the disk shaft and the other end connected with the pedal on the foot board. When traveling on all speeds other than direct drive the band clutch in the flywheel is withdrawn. The friction wheels are carried on the framework H, of rectangular shape and designed to be bolted to the side pieces of standardly constructed car frames.

MOTOR CAR LITERATURE

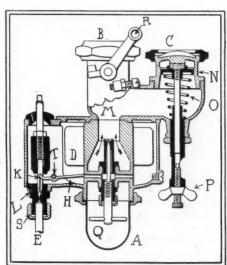
"What They Say About Us" is how the J. Stevens Arms & Tool Co., of Chicopee Falls, Mass., names a booklet that is filled with letters from users of its machines. In the last few pages are given full mechanical details of the cars made by the concern.

"Positive Proof" is what George Crane, manager of the Knox branch in Chicago, calls a little book he is distributing in the interest of Knox pleasure and commercial cars. The book lists the different machines and has several pages of letters of commendation on them.

"Frenzied Jack Sense," published for everybody by the Duff Mfg. Co., of Pittsburg, Pa., tells in decidedly blank verse the story of the automobile jack and the ills coming to those who use poor ones. Throughout the rhyme Barrett jacks are introduced. The booklet can be considered a clever bit of publicity.

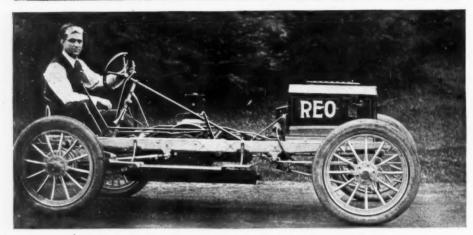
Tindel Morris Co., of Eddystone, Pa., has issued a little book on crank shafts in which are illustrated thirteen styles of crank shafts, for single, double, three, four, five and six cylinder engines. The reading pages alternate with those devoted to illustrations and in them the nature of the metal used and the construction of the shafts are given.

"Other People's Experiences" is the name of a little book issued by the H. H. Franklin Mfg. Co., of Syracuse, N. Y., on experiences of users of its machines. Upwards of fifty short accounts of their troubles and pleasures are given by Franklin drivers. The company also has ready a twenty-two page catalogue on its 1906 machines in which the general features of them are given and also a full page illustration of each. Two pages are devoted especially to giving specifications and in which every important feature in the construction is shown.



SECTIONAL VIEW HOLLEY CARBURETER

Among Makers and Dealers



REO STOCK CAR MADE INTO A REO RACING CAR AT A COAST GARAGE

Has New Idea—A patent has been granted to Victor E. Chamberlain for a controlling device for motor vehicles.

Handles Columbias—The Automobile Depot, incorporated, will open a new salesroom at 1597 Broadway, New York. It will handle Columbia electrics.

Meade in Charge—The Ford people have opened a Chicago branch with temporary quarters at 1413 Michigan avenue, which is in charge of C. C. Meade, for some time connected with the Ford forces in New York city.

Eames Is Out—Hayden Eames, of Cleveland, terminated his management of the sales of the A. O. Smith Co., of Milwaukee, last Saturday. He requests that all orders and correspondence concerning the Smith factory products be sent to the makers direct.

Fast Pace by Reo—Leavitt & Bill, of San Francisco, representing the Reo in northern California, report success with a Reo racer made from a stock car. It has made 1 mile in 1 minute 17 seconds and 5 miles in 6 minutes 30 seconds, and in a recent race beat its rivals about 20 seconds to the mile, it is reported.

The Dietrich Deal—Baron Adrien de Turckheim and W. M. Letts have just concluded a deal whereby the American agency of the de Dietrich will at once go to Allen Halle & Co., of New York, who formerly imported the Mercedes, The de Dietrich garage on West Forty-eighth street is to be closed, and new headquarters opened on Fifth avenue.

Boyd's Stock Sold—Acting under the instructions of the court, which recently rendered judgment against James W. Boyd, president of the Columbia Automobile Co., of Washington, D. C., in favor of the government, the United States marshal sold at public auction last week the goods and chattels of Boyd's company. Eight second hand cars, including Franklins, Oldsmobiles and a Waverly electric, were sold, together with the equipment in the company's garage on Eighteenth street. About \$4,000 was realized. As reported in Motor Age, Boyd was recently arrested

on a charge of embezzling \$20,000 from the government while employed in the marine hospital service. He is now out on bail.

New Detroit Garage—A new garage is to be built at the northwest corner of Woodbridge and Brush streets, Detroit, Mich.

Will Not Move—The Oscar Lear Automobile Co., notwithstanding reports that it was about to remove, is planning the erection of a new factory at Columbus, O.

South Coming Up—The Crescent City Automobile Co. is erecting a garage on South Rampart street, near Tulane avenue, New Orleans, La. The president of the company is W. Philip Johnson, and Charles U. Kennedy is manager.

Buys Out Wyckoff—Herbert Austin has bought the business of L. J. Wyckoff, of 484 Broad street, Newark, N. J., and will engage in the sale, repair and rental of automobiles. Associated with him will be Charles Krebs, who will have charge of the mechanical department.

Keeps Old Place—W. J. Riddell, of Des Moines, Ia., has closed a 7-years' lease of the Len Harbach building at the southeast corner of West Eighth and Locust streets and will continue in the automobile business there, having abandoned the idea of securing new quarters. The present building will be remodeled to suit his needs.

Bill Dismissed—In the suit brought against Charles E. Miller by Gray & Davis, of Amesbury, Mass., for handling the so-called bullet-shape lamps made by the Atwood Mfg. Co., of Amesbury, Mass., Judge McPherson in the circuit court in Philadelphia on the 4th inst. rendered a decision dismissing the bill at the cost of the complainants, reports state.

Maxwell In Chicago—A. F. Chase, of the Maxwell-Briscoe-Chase Co., which will handle Maxwell cars in the central west, is in Chicago seeking a location for the offices and salesrooms of the company. He is considering taking space in the Old Colony building, corner Van Buren and Dearborn streets, and will open up soon. From the downtown site the company will wholesale

and retail, while Dan B. Southard, at 1406 Michigan avenue, will continue to represent the car on the row.

Factory Proposition—A proposition has been received by the board of trade for the erection of an automobile factory at Fostoria, O.

New Utica Garage—The Miller-Munday Motor Car Co. will open a garage at Utica, N. Y., for the sale, storage and care of automobiles. The new establishment will accommodate 100 cars.

Plans for Factory—C. R. Greene has filed plans for a new factory for the Detroit Auto Specialty Co., to be built on the west side of Greenwood avenue, in Detroit, Mich. The cost of the building is to be \$10,000.

Has New Salesroom—A new salesroom and garage is building for S. A. Miner, Hartford agent for the Knox and Pierce cars. It will be a half block below the present Miner station and will have 112 feet frontage on Allyn street and will extend 88 feet on High street.

To Quit Lockport—It is said that the Covert Motor Vehicle Co. will remove to Rochester, N. Y., from Lockport. The plant is now located at 57-61 Richmond avenue, Lockport, but the present location is too small for the rapidly increasing business, and as most of the stockholders are Rochester men, they will probably seek a location here.

Moves to Foxboro, Mass.—The American Coil Co. has moved from West Somerville, Mass., to Foxboro, Mass. It has taken over the entire business of the Sherman Mfg. Co., of Boston, Mass., including the combination spark plugs, mixing valves and other electrical specialties, and also manufactures induction coils, ignition dynamos, sparking plugs and encased batteries of the American brand.

After Factory—There is considerable talk of renting the doll factory at Pleasantville, N. J., for the manufacture of automobile and marine engines. The question will shortly go before the council and definite action will be taken on the subject. The firm back of the project is now located in a Pennsylvania town, but if suitable arrangements can be made will remove here at once.

Shows Valveless Engine—Much interest has been manifested the past week among automobile men in the two-cycle air-cooled gasoline engine of W. C. Hays, which has been on exhibition in the Phipps power building, Pittsburg. The engine has six cylinders and no valves. It has a capacity of 25 horsepower and weighs only 120 pounds. It is 30 inches in diameter and the shaft is 30 inches long. The model is very much like a fire blower.

New Toledo Enterprise—The Rathbun-Lacy Co., of Toledo, O., with a capital stock of \$30,000, was incorporated last week for the purpose of manufacturing gasoline engines, ranging from 3 to 15-horsepower of the two-cycle type, and from 20-horsepower up in the four-cycle type. The incorporators are Percy C. Jones, Paul H. Jones, Edward Rathbun, Volney E. Lacy, Jr., Frank H. Lacy and W. L. Lamb. Volney E. Lacy has been connected as designer with the Pope-Toledo

people, while Edward Rathbun has been with the S. M. Jones Co. as engineer and designer.

New Hood Idea—A patent has been granted to Harry Raphael and E. D. Toops, of Indianapolis, Ind., for a folding hood for automobiles.

Premier in Los Angeles—The Premier Motor Mfg. Co. has established an agency at 1042 South Main street, Los Angeles, Cal., which will be in charge of W. Crosby and G. E. Bradbeer.

Aster Branch—The Aster company, of Paris, has opened an American branch at 1591 Broadway, New York, for the sale and exhibition of Aster motors, automobile parts, etc. A. J. Myers will be the manager of the branch.

After Ohio Business—The King Mfg. & Garage Co., recently incorporated for \$20,000 and taking over the business of the King Mfg. Co. at Springfield, O., will job accessories as well as conduct a garage. It is about to move into a three-story building, equipped for garage purposes.

Mitchells in New York—Mitchell pleasure cars will be handled in New York during the coming year by the Motor Vehicle Repair & Storage Co., and the Mitchell truck will be sold by the Mitchell Motor Vehicle Co., which has taken the old Ford stand at Broadway and Fifty-ninth streets.

Has Pneumatic Hub—A company has been formed to manufacture and put on the market a pneumatic hub, which is to take the place of pneumatic tube tires, on automobiles and other vehicles. The inventor of the device is C. F. Marohn, a manufacturing chemist, of Milwaukee, Wis., and patents have already been applied for.

Factory for Madison—J. M. Crosby and M. F. Bates, of Lansing, Mich., have been in Madison, Wis., with a view to locating an automobile factory in Madison. They want the residents of Madison to subscribe for \$161,000 worth of the \$250,000 stock. They promise to employ 200 men and will need from 40,000 to 65,000 square feet of floor space.

To Build Own Plant—The Windsor Motor Car Co., located at Evansville, Ind., will use the plant of the Single Center Spring Co., until its own plant can be completed. The company will build cars using the Worth friction transmission. An election of officers, held last week, resulted as follows: President, J. C. Zutt; vice-president and general manager, J. A. Windsor, Jr.; secretary and treasurer, W. M. Copeland. These, with W. R. Donaldson and A. F. Karges, are directors. Mr. Windsor hails from Chicago.

Big Garage Opens—At Broadway and Fifty-sixth street, New York, the Automobile Salon, claimed to be the largest garage in the world, was formally opened by Smith & Mably Tuesday afternoon and evening with a reception having the accompaniment of music and refreshments. A fashionable crowd thronged the building. The garage is of brick and steel and has four storage floors, each with complete equipment, lockers, etc. The total floor space aggregates 76,000 square feet, and will furnish storage for about 450 cars. Repair shop, supply stores, electric charging departments and chauffeur quarters are



CONVALESCENT OFFICERS' AMBULANCE

all commensurate with the magnitude and elegance of the entire plant, in which no expense has been spared in the endeavor to produce something a little ahead of men up to date.

Joins Gallaher—H. A. Weaver, formerly of the Decauville company, has joined the Richard-Brasier company as assistant to E. B. Gallaher in New York.

McDuffee Aides—H. C. Tillotson has assumed charge of the Chicago branch of the McDuffee Automobile Co., which handles the Stoddard-Dayton. Associated with him will be Edwin F. Heywood, Jr.

Sold Its Lease—The Winton Motor Carriage Co. has transferred its 10-years' lease to Lawrence Sinnott for a consideration of \$35,000. The transfer is the lease of the Huron street building, Cleveland, held by the motor car company.

Paid for By the King—The convalescent home for officers at Osborne, Isle of Wight, has been presented with a special 18-horse-power Wolseley car by King Edward. It is luxuriously upholstered and has a hand-some body with windows fitted. There are six detachable fauteils, in addition to a phaeton seat in front.

Leased New Place—The Motz Clincher Tire & Rubber Co. has leased a portion of the old Webster, Camp & Lane plant at North High and Main streets, Akron, O. The Buckeye Rubber Co. will continue the manufacture of the Motz tire, but the finishing of the product will be done at the new plant. The company will shortly start in working up its foreign trade, as

it has patents in several European companies, which it will publish.

Moved to Boston—The Dodge Lubricator Co. has removed to 36 Columbus avenue, Boston, where the Dodge positive oilers will be manufactured.

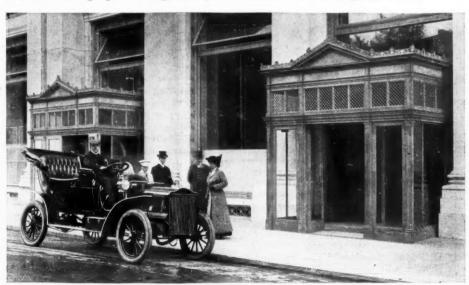
Used by the Swells—A typical shopping scene in New York is illustrated in a photograph recently taken in Gotham showing a society woman stepping from a White victoria in front of the store of Tiffany & Co., the jewelers.

Expensive Garage—Architects Simonson and Pietsch are to prepare plans for a garage to be built at the northeast corner of Maryland and Mount Royal avenues, Baltimore, Md., for Gillett Gill, the cost of which is estimated to be about \$150,000. Work will start soon.

Another in Pittsburg—The latest automobile firm to be established in Pittsburg is the Central Automobile Co., composed of Edward G. Mooney and Edward Seely. The company has commissioned Architect J. E. Obitz to prepare plans for a onestory brick garage, 50x150 feet, in Broad street near Euclid avenue, East End, to cost \$16,000.

Enlarging Place—The Atlas Automobile Co., of Pittsburg, which claims to have sold 370 second-hand cars since it started in business in 1900, is having plans prepared for a two-story and basement concrete garage to be built in the East End at a cost of \$35,000. The building will be 85x120 feet and will afford storage for 300 cars.

Change In Winton Itinerary—A revised itinerary of the Winton exposition car has been issued from Cleveland. The car was in St. Louis Tuesday and Wednesday and was due to arrive in Chicago today, where 3 days will be spent. Milwaukee will be visited on the 23d, Minneapolis on the 24th and 25th, St. Paul on the 26th, Des Moines on the 27th and Kansas City on the 28th and 29th. From October 31 to November 3, inclusive, the car will be in Denver. November 5 it will be in Salt Lake, 7th at Sacramento, 8th at Stockton, 9th to 12th at San Francisco, 13th at San Jose, 14th at Fresno and 15th and 16th at Los Angeles.



NEW WHITE CAR WITH VICTORIA BODY, AS SEEN IN NEW YORK





URSTED TIRE—A tire sometimes bursts without previous warning in the shape of a lump, which being wrapped on the outside, or reinforced by cementing fabric on the inside, may not give trouble. If the burst is sev-

eral inches long, it is usually possible to draw out the air tube far enough to slip a piece of shingle or stiff cardboard under it. This will hold the tube flat and permit patching it without removing the tire. After being patched it is pushed back through the breach and very lightly inflated. Be sure that it has not crept and that the casing is in place all around. When the tube rests against the casing, but without protruding through the opening, put a few wrappings of cord around the bursted portion, so as to hold the aperture closed and pump a little firmer. Then wrap the tire for a space about an inch longer than the opening smoothly and closely with cord, making sure that the aperture is closed. The wrapping should be slightly smaller than the outside diameter of the tire, but not much smaller, the object being to have the tire the same size at that point after completion of the repair as at any other point, instead of larger or smaller. When the wrapping is completed, wrap with tire tape, so as to completely protect the cord from water and dirt. In wrapping with tape the layers should overlap each other like the scales on a fish, the laps being made so that the driving effort of the tire against the ground is in the proper direction to smooth down the laps, instead of lifting them.

CARBURETER OR VAPORIZER TROUBLES .-Many things may happen to a carbureter. A grain of sand may clog the float. Water may interfere with the regular flow of gasoline, or while standing on a cold day, the water may become ice, holding the float immovable or stopping the passage of gasoline completely. The ice can be thawed by an application of hot water, or if there is absolutely no leak of gasoline, the heat of a torch outside will quickly melt the ice. This proceeding, however, is dangerous with many vaporizers and must only be exercised with judgment. Care must be taken when the carbureter is opened that no dirt drops into it, for this is likely to clog the spray tube. Lint, leaves and sometimes waste is drawn into the air pipe. This not only prevents full charges, but may cause over-rich mixtures. or, on the contrary, failure to spray at all. It is usually possible to form an idea of the trouble by opening the peep cap of the cylinder or removing the plug and applying a lighted match. If the mixture is too rich, it will burn yellow; if too poor, it may not burn at all or faintly blue, but if just right, it will explode and rush out the opening to the danger of one's fingers. If it seems to be poor, injecting a little gasoline from a squirt can or flooding the carbureter will prove whether or not the diagnosis is correct and, having determined what is the trouble, the cause may usually be found. An over-rich mixture may be caused by a leaky float, which, containing gasoline, is too heavy to perform its duty. If this is held leaky side down and warmed slightly, the gasoline will be expelled, after which the float will probably serve until it can be To repair a leaky float a repaired. very slight vent should be made in it at some place easy to solder. The leak is then soldered and the float made cold. Placing it on a piece of ice will serve. Then solder the vent hole with a light touch to avoid warming the float, and the air contained will be substantially at atmospheric pressure instead of under a partial vacuum, inviting a leak. The float chamber should always have provision for withdrawing any water and for removing the float and replacing the same easily, and in this, as in many other parts, the designer should keep in mind roadside repair as well as factory costs. If a cork float gives trouble, dry thoroughly in a warm place and varnish with shellac.

FAULTY COMPRESSION - The operator should learn promptly to notice the compression. It should be substantially alike in all cylinders and if it quickly grows less something is wrong. If the change is gradual the valve may be warping and needs regrinding. One or more piston rings may be broken or there may be a leak through some gasket or even through a sandhole in the casting. Turn the motor slowly and listen for the hiss of escaping air. If too small to hear, hold a candle at various points until the leak is located. A bent valve stem may cause the trouble. If there is no compression whatever and this condition comes on suddenly, look first for a stuck valve. Lubricating oil, baked on the valve stem, may prevent its operating properly. broken spring will fail to close the valve or the valve itself may be broken. A spark plug or inspection cap may be loose or even lost out entirely. Sometimes a leaky piston is caused by the openings in the rings coming on the same side, in which event the rings need turning around. They are usually pinned, however, so this trouble seldom occurs. Insufficient lubricating oil, oil of too low fire test, or oil containing dirt and grit

EDITOR'S NOTE—This is the thirteenth of a series of articles by Charles E. Duryea. These articles will be prepared for publication in book form and will be distributed by the American Motor League to its members during the coming year.

always contribute to leaks past the piston. A broken porcelain or faulty packing in the spark plug is not infrequent and sometimes hard to find. If the exhaust valve stem is too long, the valve cannot seat properly. Sometimes it will be right when cold but the expansion will cause trouble when hot. The remedy in this case is to make the valve stem shorter, by adjustment or filing, if necessary. This trouble usually manifests itself by overheating the valve and parts.

THE COIL-Low tension coils seldom give trouble, for they are simple in construction. Sometimes, however, they get water soaked, which permits enough leakage of electricity to destroy their value. In this case they must be baked at a temperature higher than boiling water until the water is completely driven out of them. If convenient to boil them in paraffine wax, this will not only boil out the water, but will render the coil waterproof and prevent further happenings of this kind. Soaked coils are quite frequent in marine work but this seldom happens in connection with automobiles, for the coil is usually placed so that water cannot reach it. A careless stable boy, however, usually forgets that an automobile contains mechanism and drenches it inside and out, with the result that the user wonders how his troubles could have been caused. High tension coils are so susceptible to moisture that they are always waterproofed before being sent out, but being more complicated and carrying electricity of extremely high voltage, they sometimes give trouble because of water on the exterior. It is, therefore, wise in wet weather to examine all parts of the coil, high tension circuit and spark plug to make sure that a drop of water is not carrying away a large part of the current. Wires are sometimes broken or are destroyed by the action of the soldering fluid used to attach the terminals. The ends remaining in contact or the undestroyed portion of the wire may serve to carry a spark, but not of sufficient intensity to prevent misfiring. Troubles of this kind can hardly be found and remedied by the roadside, but at the first occasion a good coil should be substituted and results compared. This will determine whether or not the fault is in the coil, and if so, prevent searching for trouble elsewhere. With vibrator coils particular attention must be paid to the vibrator, of which the adjustment will require changing with different strength of battery current.

CLATTER-Many things may make a clatter around an automobile. Most of them can be tightened or adjusted so as to stop the noise. Noise is unnecessary work and should be avoided, and the operator should either remedy the noise or know that it cannot be remedied and be able to recognize it from other noises. In short, the user should train his ear to recognize the various sounds and separate the regular and proper ones from those betokening trouble. After a little practice the ear will detect new and strange sounds amid many others with almost the same clearness and certainty as if the others did not exist. A strange clatter should be promptly investigated, for the tale it tells is that something is out of order and a stitch in time saves nine.

Current Automobile Patents



ETTERS PATENT No. 801,521, dated October 10; to Jackson O. Haas, Pottsville, Pa.—The invention is a unique design of automobile frame.

The side pieces are made of Z Iron, being connected at the rear by two cross pieces,

each of which extends beyond to cross pieces, so that the ends of the spring can be shackled thereto, thus leaving the side pieces free from thereto, thus leaving the side pieces free from spring hangers. Near the front of the frame is a similar cross piece for the attachment of radius rods to the front axle and for securing the steering column. The front springs are semi-elliptics placed transversely and pivoted at the top of their arch to a horizontal bolt on the frame, and at their ends shackled to seatings on the axle. The axle is connected with the frame work so that it may oscillate in an excluded place and the steering knuckless are

ings on the axle. The axle is connected with the frame work so that it may oscillate in an inclined plane, and the steering knuckles are pivotly connected in the usual way.

Letters patent No. 801,481, dated October 10; to Lewis C. Shipley, New York—In the construction of the frame work for a canopy top for automobiles the inventor uses standards for supporting the top, placing four on each side—at the dash, side of front seat, and front and rear of the sides of the rear seat respectively. An extra support is placed between the individual front seats. The standards are pivoted to metal supports secured in the framework of the seats, and catches are used for holding the standards are provided with slots to which the cross pieces of the canopy are secured, and diagonal braces are used on either side of the front seat. The framework, carrying the glass above the dashboard, consists of standards at either side, so hinged that the pleces will fold, one over the other, when the pane of glass is moved up beneath the top of the canopy, leaving the front of the car without standards of any description and permitting of an unobstructed view by the operator. out standards of any description and permitting

of an unobstructed view by the operator.

Letters patent No. 801,823, dated October 10; to Ernst J. Berg, Scheneetady, N. Y.—In propelling an automobile a gasoline engine is used in driving an electric generator and the generator in turn furnishes an electric current for any number of electric motors connected in any desirable way with the road wheels of the vehicle. A feature of the device is that the generator, while driven by the gasoline engine, is used to furnish ignition current, which is accomplished by connecting the ignition devices of the engine to points on the generator com-mutator, having a difference of potential equal to only a fraction of the terminal voltage of the generator. In doing this the generator is furnished with an auxiliary brush, displacing a small amount of the main brush, and the spark coll of the gasoline engine has its primary wire connected between the main and auxiliary brush of the generator.

of the generator.

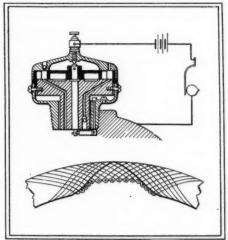
Letters patent No. 801,452, dated October 10: to Benjamin G. Gilbough, Chicago—In his ignition device for gasoline engine the inventor makes use of a rotary electrode operated by fluid pressure, the inlet and exit passages for the fluid being controlled by valves. The device comprises a casing with a removable cap and a hollow threaded stem. Within the casing is a core provided with passages, the inlet and outlet having valves attached. A wheel with two oppositely disposed series of blades is placed so that the blades register respectively with the outlet and inlet passages of the core. A rotary electrode is actuated or driven by the A rotary electrode is actuated or driven by the wheel and co-acts with the other electrode, located outside of the casing. The cam movement without the casing is used for making and breaking the circuit.

Letters patent No. 801,504, dated October 10; to Gustav Baumann. Chicago—The inventor offers a new method of attaching semi-elliptic

springs to the framework of an automobile. Into the ends of the two main leaves are placed Into the ends of the two main leaves are placed seatings, which are provided with depending side flanges, the flanges contacting with the ends of the leaves, as well as with the sides of the shorter leaves, and tending to hold them from interal sway. The depending flange is secured to the framework of the car.

Letters patent No. 801,339, dated October 10; to Henry C. B. Cave, London, England—The pneumatic tire described has the outer casing composed of strips of nickel steel that are so interlaced with one another as to lie

GILBOUGH'S IGNITER



CAVE'S PNEUMATIC TIRE

obliquely with reference to the periphery of the cover. These strips are broader over the tread of the tire, so that when the tire is placed on the wheel and inflated the strips will mesh perfectly with one another. The ends of the cover are braided to points and brought together and the strips are then plated crosswise

and attached to wires.

Letters patent No. 801,155, dated October 3; to Harry Raphael and Emery D. Toops, of Indianapolis, Ind.—The invention is a folding hood for covering the motors in automobiles.

The hood is cylindrical in shape and consists of two parts secured at opposite sides of the motor, each part in turn being composed of several parts hinged together and folding down one upon another. Latching devices connect the terminal sections of the two principal parts for holding the hood together above the motor.

10; to Ernst J. Berg, Schenectady, N. Y.—The object of the invention is to control the speed of a gasoline-electric machine solely by changing the spark and simultaneously altering the

throttle. In the front of the machine is placed a vertical motor with any number of cylinders. The motor is connected directly with an electric generator and the latter furnishes current to electric motors which are geared directly to the rear wheels. In controlling the speed of the car the electrical control that the car wheels are controlled to the car the electrical control that the car wheels are controlled to the car the electrical controlled to the car the car whether the car when the car nections between the generator and electric motors are not interfered with in the least, all variations in speed being obtained by vary ing the speed of the gasoline engine. This arrangement of the power plant dispenses with the use of other levers than throttle and

with the use of other levers than throttle and spark control.

Letters patent No. 801,209, dated October 10; to Littleton K. Buck, Freehold, N. J.—The invention is a new form of valve attachment for singletube tires. The valve tube is bored for containing the operating valve mechanisms and has integral with it at the inner end a flange resting on the outside of the tire tube. Within the valve stem is secured a second tube extending through the opening in the tire and extending through the opening in the tire and ending with a button-headed flange pressing against the inner surface of the tire tube in such a way that when the tire is inflated it is held rigidly between the flange on the valve stem and the other one on the tube within the stem, resulting in an air-tight valve attach-

ment, when there is any air pressure within the air chamber.
Letters patent No. 801,323, dated October 10; to Hubert A. Kiser and Christian P. Anders, Westover, S. D.—The invention is a reversing mechanism for attachment to the drive wheels of motor vehicles. A driving gear wheel is secured to the drive shaft or axle. Inside of this is a gear carrier with pinions mounted thereon in mesh with the driving gear wheel. An internal gear wheel has a pinion connected therewith and motion transmitting connections are used between the pinions and the treation.

therewith and motion transmitting connections are used between the pinions and the traction wheels. Means are provided for locking the gear carrier against movement in one direction, and against relative movement along the internal gear in the opposite direction.

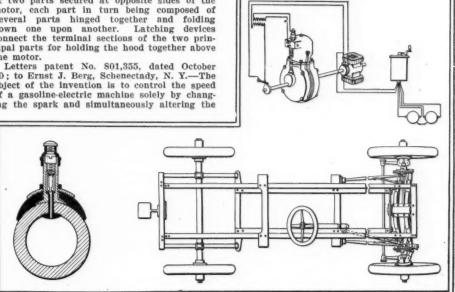
Letters patent No. 800,809, dated October 3: to Thomas H. Lindley, of Cedar Rapids, Ia.—The invention is a metal guard for protecting the tread of pneumatic tires. Encircling the tire tread is a narrow metal band, practically as wide as the diameter of the tire. On each side of the metal band are radial arms for seizing the sides of the tire when inflated and keeping the band from slipwhen inflated and keeping the band from slipping on the tire.

ping on the tire.

Letters patent No. 800,789, dated October 3; to Thomas A. Blakely, of Flesherton, Ont.

—The device is a form of anti-friction bearing in which one circle of long rollers is used. The roller axles are retained at each end in bronze rings held in position by short bushings. The entire bearings are enclosed in an oil tight cage, one side of the rollers working on the axle shaft and the opposite side on a bronze journal. on a bronze journal.

BERG'S CONTROLLING DEVICE



BUCK'S TIRE VALVE ATTACHMENT

THE HAAS AUTOMOBILE FRAME



TROLLEY REPAIR CAR

S TEAM, that, since the day when Stephenson perfected Watt's tea kettle, has been the speed king of the years, is inch by inch being dethroned. From 1830 until 1900, three score years and ten, her reign was one uninterrupted march of progress and conquest, but with the waning years of the nineteenth century, when the demands of transportation were month by month and year by year becoming more urgent the first rays of the opening day of the gasoline motor were piercing the overhanging canopy of doubt and the east was gradually lighting up with what was soon to be the revolutionizer of passenger trans-

The gasoline motor that lay in its swaddling garments through the early '70s and '80s until that wizard of the motor, Gottleib Daimler, started it on its glorious march of triumph, has within the last few years grown and developed as steam never did and now verging on the threshold of manhood is fearlesly reaching out to grapple for the supremacy on the thousands upon thousands of miles of steel that for so long have been the undisputed home of the steam engine.

The coming of the gasoline motor as a means of power for railroads is no idle dream, no vain illusion, but a rapidly approaching reality. Fairbanks, Morse & Co., of Chicago, one of the leading railroad supply houses of the country, havecommenced in one of their big plants the manufacture of all styles of gasoline motor inspection, section and observation cars for use on any standard railroad line, and report that since the first of the present year they have sold over 500 of these to the leading roads of the country. such lines as the Erie, Chicago & Great Western, Chicago, Burlington & Quincy, Long Island, Union Pacific and other lines are installing them as fast as they can get them it is ample proof that the gasoline railroad inspection and section car is not an experiment but a practical outfit.

The old way of inspecting a roadbed from a private car, drawn by a special locomotive, with a special fireman, a special engineer, a special brakeman and a special conductor, the whole at a very special price and expense, is being superseded by inspection in a trim gasoline car with seating accommodation for ten or a dozen people and driven by a two-cylinder gasoline motor of 12 or 14 horsepower capable of making 35 miles an hour over good roadbeds with as much convenience as necessary and with the expense absolutely nothing compared with that of a special train.

Perhaps the most novel and little used field of the gasoline car is that for trolley repair work. Every citizen of the smallest town where the overhead trolley constitutes a part of the transportation system, is familiar with the tower wagon, generally hauled around by a couple of horses and requiring a long time to reach a point where the wire has broken down. The gasoline motor trolley wagon runs on the street car tracks and can move along at a speed of 25 miles an hour when the tower is lowered as much as possible, and with it up at its highest, fast traveling is possible because of the little vibration on the steel rails compared with the rocking that the horse-drawn one is treated to. This car is made especially for inspection as well as repair work. It is lightly constructed, so that in case a break occurs and there are several cars on the line between the break and the repair car, the latter can be run close to the street cars and then lifted off the track, the trolley cars backed up until none remains between the tower wagon and the break, when it is lifted back in

The car has a single-cylinder watercooled motor rated at 6 horsepower. By placing the motor and transmission gear close to the front axle the entire back part of the chassis remains open for attaching the tower. The motor generates its normal power at speeds practically the same as every automobile motor, and the transmission of power is through a twospeed and reverse planetary gear transmission carried on the crankshaft. On high speed direct drive is obtained from

the motor shaft to the center of the front axle, a single chain acting as the transmitting medium, this being identical with automobile construction. This construction has been found, by continuous experiments, to be much better than where the motor is geared positively to the driveshaft, in which case when the motor is started motion is at once communicated to the drive wheels. With the automobile connection between motor and drive wheels the control in stopping and starting as well as the regulation of speed is made more delicate and ease of control correspondingly increased.

Gasoline is fed to the motor by a float feed carbureter and the control of both throttle and spark is identical with that on the automobile, except in that a steering wheel is not needed and the throttle and spark levers are short finger levers working on opposite sides of a horizontal circle at the right of the operator.

Ignition is by jump spark, a standard spark plug being placed in the usual position and connected with dry cells or storage battery and a coil. Water cooling is effected by a gilled tube radiator, hung in the center of the car above the front axle so that the tubes, arranged in horizontal rows, are exposed to all air that is coming.

The planetary transmission has the usual quota of gears running in an oil bath. Changes in speed are gained through the use of a lever, with a pedal serving for the reverse. The only brakes used is a pair of shoes working on the tires of the rear wheels and applied either by pedal or lever.

The tower consists of two parts-a lower half of large size and made of either wood or steel and a steel top of the same construction made to telescope within the

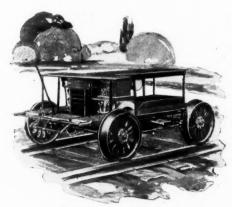


OPEN INSPECTION CAR

bottom part. The top part can be raised or lowered with little effort. The car is insulated from the ground by the use of wooden center wheels.

The most popular railroad car is the one intended for the use of section gangs, displacing as it does the familiar handcar worked by the passengers. Car No. 14, made by the Fairbanks concern, is not much larger than the common handcar and differs slightly in general lines. motor plant is located above the front axle and consists of a single-cylinder, watercooled motor developing 6 horsepower at

dood revolutions per minute. In line with the crankshaft is an enclosed, oil-tight, danetary transmission, with single chain trive to the center of the front axle. Two forward speeds and a reverse are provided. The body part is a flat platform with a T-shaped raised central seat serving also as a covering for the machinery. On this seat is accommodation for ten



CAR USED BY THE SECTION GANG

workmen and on the footboard is space for carrying their tools. The car can be lifted off the track by four men in case of

an approaching train.

For railroad inspection work the same makers offer two styles of machines, one with practically the same power and transmitting system as in the section car, but fitted with four semi-elliptic springs, clipped to seatings on the axle casings and shackled, automobile fashion, to the side pieces of the main frame. In this car the radiator is thrown beneath a slightly inclined dash-another touch of automobile style-the change speed lever is at the right of the driver, as are the spark advance, throttle lever and battery switch. The aim in construction of these cars has been to make them as similar as possible in their control to the present-day motor car. Passenger accommodation for four men is provided, two on a permanent seat in front and two or three on a removable seat on the rear platform. Both seats are upholstered. In case the back one is not needed it can be removed and in its place attached a carrying compartment for baggage. The car is provided with corner handles for lifting off the tracks for passing trains but generally they are run on dispatcher's orders according to regular schedule.

The company's large inspection car is built for nine people and is driven by a two-cylinder 12-horsepower motor, with cylinders mounted vertically beneath the

front seat.

The drive is by chain to the front axle with changes of speed gained by a planetary transmisson. The car body has a cross seat in front for the driver and one passenger and facing seats in the rear with room for four on each seat. A canopy top with sliding glass front, glass sides beside the driver and drop curtains for protecting the rear seat passengers are features of it, making it suitable for long-distance work. This machine is adapted to be run on regular railroad schedule and being furnished with special springs can be speeded to 35 miles per hour. In case

the rear seats are not needed they can be removed and used for carrying baggage. While built especially for railroad inspection work it is suitable for running on side lines where the passenger traffic does not warrant regular steam service but where little accommodation and more frequent service are the essentials. One of these cars recently made a run from Chicago to Denver and return, covering the 2,011 miles at an average of 29 miles an hour. On the trip all kinds of grades common to railroading were encountered, but the machine mounted them on the high speed.

One feature noticeable in all these cars is the solid and heavy construction, as well as the introduction of good springs for machines running at fast speeds. Every reader is familiar with the jar felt in the palatial Pullman car when passing over crossings and joints at high speed in spite of the spring suspension of the coaches. This occurs, only in a lesser degree, in these gasoline cars and the jar occasioned at 30 miles an hour is sufficient to crystallize axles of the ordinary construction as well as to loosen the piping connection in and around the motor.

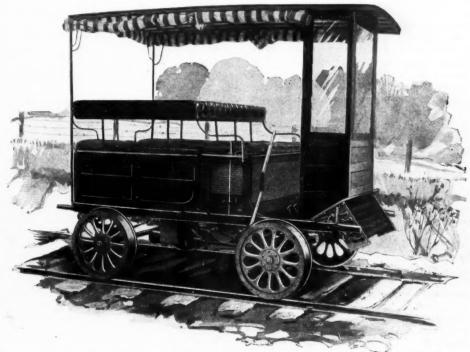
AUSTRALIAN SEEKS CARS

About two years ago James Trackson, of Trackson Brothers, Brisbane, Queensland, left that city for the United States and Europe to seek for the most suitable road transports for freight and passengers for Queensland. He spent about 5 months in this country, 4 months on the continent of Europe, and several weeks in England, which country, he states, he found ahead of others in this field. As a result of this visit he purchased six outfits of a steam engine and three trailers, which are now in use in Brisbane, and more are on the way. The enterprise is still in an experimental stage, but the following routes over which the transports are to be run will show the extent of the service: Yeulba to St. George, 129 miles; St. George to Dalby, 304 miles; Warwick to Goondiwindi, 120 miles; Miles to Garoon, 105 miles; Cunnamulla to Thargomindah, 142 miles; Ilfracombe to Isisford, 65 miles; Barcaldine to Muttaburra, 92 miles; Longreach to Winton, 125 miles.

One requirement of motor service of this character is good roads. The engine and freight cars have wheels whose tires range from 6 to 12 inches in width. The speed of motors is from 8 to 10 miles an hour, and they will have a load-hauling capacity of about 10 tons. The engines are run in pairs, one being equipped with wood-sawing machinery for supplying fuel, and also a 30-ton steel hawser, fixed on an emergency drum, to assist in passing creeks and bad places on the road. The exhaust steam will pass into the return boiler tubes to extinguish sparks, so as to minimize risks of grass fires. The engines are of the compound type, work with a pressure of 225 pounds of steam, and are provided with filtering, suction and other apparatus necessary for the class of work for which they are intended. The gearing is in an inclosed oil tank, into which dust cannot penetrate. Fuel in many districts can be easily obtained, but water, particularly during the summer months, will not be so accessible.

After inspecting transports of various motive power, steam, electric, gasoline, etc., Mr Trackson states that he found that steam would best meet the conditions in Queensland. He states that he did not order American-made machines, because they were too lightly built and would not stand the rough roads and wear and tear of the Queensland bush; that until American manufacturers make heavier and more substantial motors they cannot compete with the English manufacturers in selling vehicles for the conditions obtaining in the Australian bush.

Each tractor is built on very heavy automobile lines rather than following traction engine construction. The boiler is placed in front directly above the front



DESIGN OF ENCLOSED INSPECTION CAR FOR USE ON LONG TRIPS C. RALLEDADS



BRILLIE BUS IN CHATEAU THIERRY HILL CLIMB

axle, with a locomotive type of smoke stack rising from the center. The driver sits directly behind this, and slightly to the rear of him and beneath the frame of the car is the motor, furnished with steam from the boiler. The entire carrying platform is used for carrying fuel, either coke, coal, wood or anything that will burn, and water tanks. The back wheels, besides having very broad tires, have cross pieces on each to increase the traction. They are in short traction engine wheels. The trailers are common heavy wagons with wide iron wheels. They are strength personified and couple one to another much as do the ordinary street cars.

TESTED ON CHATEAU THIERRY

October 1, the date of the Chateau Thierry hill climbing contest in France, was especially conspicuous this year in that motor trucks and motor vans competed against one another in ascending the 1-mile hill. In previous years touring cars and racing machines have been the only competitors, but France is now in the commercial game and many makers were on hand with trucks and passenger buses to test the work of their machines. The Chateau Thierry hill is a mile ascent with the grade slightly over 10 per cent in one place. The fast pleasure cars and racers contested over 1 kilometer of the grade,

above this point there being too acute a curve to warrant letting the fast machines try it, the condition of the hill not being the best and the danger of accidents being very great. Accordingly, while the fast cars had to be content with a %-mile test, the slower ones, including the trucks, had a chance at the mile climb.

All competitors were given a very short flying start and the Automoto truck, carrying rather less than 3 tons, climbed the hill in 9 minutes 3% seconds. The Aries truck, with a total weight of more than 41/2 tons, was 17 minutes 20 seconds in covering the hill; and the Brillie truck with a load of 5 tons of stones got up in 17 minutes 53 seconds. Two motor buses lent by the Paris Omnibus Co., with which they are at present undergoing tests, climbed the hill in magnificent style. The gasoline-electric Krieger bus, with as many passengers as could possibly be crammed into it, climbed the hill in 17 minutes 3% seconds. The Brille gasoline bus with the same seating accomodation, but slightly lighter in construction, took the 10 per cent grade with remarkable ease in 14 minutes 42 seconds. The driver of this bus gave a free invitation to one and all to mount his vehicle. The natives did not need pressing, and in a few seconds the inside, the outside, the platform and the steps were crowded

with joyful rustics. As they got off the bus they were counted and were found to number no fewer than sixty-five. Some twenty were children, but an equally large number were men of more than ordinary growth. As soon as the day's events were over the Brillie bus returned to Paris by road as it had come 2 days previously, covering the 55 miles with the greatest ease, despite a full load of passengers and a series of difficult hills.

The construction of all the competing machines was standard in practically all lines. The Brillie bus is a double-decker with rear entrance and stair case to the upper deck, which is protected by a canopy. The driver occupies a cross seat directly above the bonnet, the foot boards being taken out when examining the motor. A canopy projects over the driver, with side and front drop curtains for wet weather. Final drive is through double side chain, the sprockets on the ends of the counter shaft being very small. The sprockets, as well as the chains are protected by a metal covering, excluding mud, dirt and grit. The body is of London omnibus design, finished in white, with broad blue trimming lines. Solid rubber tires on the front wheels and double on the rear wheels were fitted during the test, but in the Brillie truck flat steel tires encircled all of the wheels, those on rear being much wider than the the front. On the truck a common draying body with low wooden sides was used. The load on this vehicle consisted of large stones.

Compared with the foregoing machines, the Automoto truck was of very light construction being practically touring carlike as far as weight is concerned. It has double side chain drive. In the Aries truck the driver's seat is located directly over the motor, the tube radiator hangs beneath the dash, drive is by double side chain and solid rubber tires are fitted.

USING DOUBLE CHAIN DRIVE

The Rapid Motor Vehicle Co., of Pontiac, Mich., manufacturer of commercial machines, has its first 1906 machine on the road undergoing tests. The new car differs from this year's machines in the use of double chain drive, as well as in minor parts relative to the motor and transmission. The company is having a new building erected which it hopes to occupy by the middle of next month.





BRILLIE TRUCK

THE CHATEAU THIERRY COMMERCIAL HILL CLIMB



FRENCH WOMAN CLIPPING SHEEP BY POWER FURNISHED BY GASOLINE ENGINE

Fast Pace for Bus—The double-deck omnibus running over rural routes in England is permitted to travel at a 12-mile gait, irrespective of localities passed through. Going at this rate—when fitted with solid tires and well loaded—there is no serious jar to the machinery, which goes to show the big part played in automobiling by good roads.

Wants Another—The Chicago public library board is asking for proposals from manufacturers for a gasoline delivery wagon to be used in delivering books from the main office to the sub-stations. Already the board is using three air-cooled cars in this work and the fourth machine will, it is expected, be used as a relief one, doing duty when others are being repaired and also in emergencies when breakdowns occur to the ones in service.

Shy On Batteries—The Park Auto Co., of Pittsburg, Pa., which started a line of touring buses 2 months ago, is having considerable trouble with its machines. Only one bus has been secured thus far, although it was expected that two more would be put on this summer. The difficulty is that enough power cannot be generated by the batteries to carry the car full of people over 25 miles and as this distance constitutes about one and a half trips as advertised there is constant caution required on the part of the chauffeur to see that the machine is charged after the first trip.

Spreading in London—The motor bus movement is spreading in London, despite the fact that it is doubtful if any one of the companies engaged in the competition can be showing a profit, if any allowance is made for depreciation. The number of motor buses that worked in 1 week was 130 and at that a fresh batch has just passed the police test—turning inside a 30-foot circle, brakes, etc. The effective life of a motor buse cannot exceed 3 and will probably stop at 2 years, for they are being run 19 and 20 hours a day. As they cost from \$4,000 to \$4,500, the figures necessary for profit-

able operation seem easy to arrive at. But nobody appears to have the courage to tackle the problem up for consideration.

Motor Dog Clipper-French poodles and sheep are latest victims of the gasoline engine. In the hot summer months the French dog fancier cares as much for the comfort of his canine as does the average American horseman for his pacer or the devoted automobilist for his 90horsepower machine. Clipping poodles has previously been done by the tondeur or dog shaver, but the invasion of the motor shaver has commenced and already the tondeur is becoming anxious. The motor shaver is a little twowheeled gig much like the ordinary popcorn roaster so common in city streets, differing, however, in that a little vertical air-cooled gasoline motor is mounted where the flame in the popcorn gig is located. On the front of the gig is a large flywheel revolved by round leather belt from a small wheel on the end of the crankshaft, and the axle of the flywheel is continued in the form of a flexible shaft, much the same as that used by dentists. On the end of the shaft is fastened a small pair of

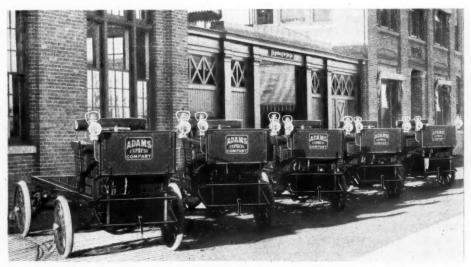
the ordinary hair clippers. The sheep or dog is held on the knees of an attendant when a second party, generally a woman, seizes the end of the flexible shaft carrying the clippers and is soon ridding the panting animal of its woolly coat.

Shipping Light Trucks—The Mitchell Motor Car Co., of Racine, Wis., has shipped its first consignment of light trucks to its New York selling agents, the Mitchell Motor Vehicle Co., located at Fifty-ninth street and Broadway. The company has practically completed 50 of these machines and expects to put a great many more through before the opening of the season.

Has Hotel Bus—The Mobile Carriage Co., San Francisco, Cal., has manufactured for the Hotel St. Francis a large passenger bus for use between the hotel and depots. The vehicle follows extended touring car lines rather than common bus construction. The passengers enter at the rear and occupy facing seats. Power is furnished by a vertical motor carried in front with drive by double side chains.

Bad Streets a Drawback—Siegel, Cooper & Co., Chicago, have used a Woods electric delivery wagon in connection with their delivery system for several years. The machine has good carrying space and is used over regular routes. The bad condition of many of the streets in the Windy City has restrained the company from installing several additional wagons, the extra cost of rubber tires being the heaviest expense in connection with the operation of the machine.

Buys Packards-Five 11/6-ton trucks have recently been sold by the Packard Motor Car Co., of Detroit, Mich., to the Adams Express Co., for use in New York city. The trucks have the vertical twocylinder 14-horsepower Packard motor, with friction clutch, sliding gear transmission and double side chain drive. Solid rubber tires are fitted. The company has also shipped this week three other trucks of the same power to Central America to be used on routes between the mines and the coast towns. The Packard concern reports that it has been taxed to the utmost capacity during the entire summer to keep up with orders and is now considerably behind in deliveries.



PACKARD TRUCKS BUILT FOR USE BY ADAMS EXPRESS CO. IN NEW YORK CITY

LEGAL LIGHTS AND SIDELIGHTS



TO STOP NUMBER TRANSFERS

The second annual report of the automobile board of the District of Columbia, submitted to the district commissioners Saturday, shows that during the fiscal year ending June 30, 1905, a total of 667 applicants were examined and granted permits to operate automobiles within the district. Automobiles to the number of 468 were assigned identification numbers; numbers were authorized to be transferred from former owners of 168 machines to new owners of the cars when sales of the cars were reported to the board and sixtyeight automobiles from other jurisdictions were allowed touring permits. Detailed figures transmitted with the report show that of the 468 new cars registered during the year 137 were electrics; 393 were gasoline, 109 steamers, while twenty-eight motor cycles were registered during the

· The board makes a number of recommendations. One of the most important is that which, if enacted into law, will prevent the indiscriminate transferring of permit numbers from one automobile to another. In this connection it is recommended a regulation be passed which will require "that on the assignment of a permit number to an automobile the secretary of the automobile board shall issue and deliver to the owner of such motor vehicle a seal of aluminum or other suitable metal, which shall be circular in form, approximately 2 inches in diameter, and have stamped thereon the words 'Registered motor vehicle, District of Columbia,' with the registration number inserted therein, which shall thereafter at all times be conspicuously displayed on the motor vehicle to which such number has been assigned. Upon the sale of said motor vehicle the vendor shall report immediately such sale and return the registration seal affixed to such motor vehicle, and, further, that all motor vehicles owned and operated in the District of Columbia be required to procure and display such registration seal."

Similarly, to guard against reckless nonowners or chauffeurs, and to render more general a compliance with section 8 of the automobile regulations, which requires operators of automobiles "to exhibit his or her permit to any police officer " " when demand for such exhibition is made," the board recommends that an aluminum badge hereafter be issued to such non-owners or chauffeurs, the badge to be stamped with the words 'Registered chauffeur, No. —, District of Columbia,' and to be worn in a conspicuous place on the clothing."

In conclusion the report says: "The regulation requiring professional chauf-

feurs to file certificates of good character, indorsed by three citizens, has been of benefit, those to whom permits have been issued being, in the majority of cases, careful to observe the regulations.

"The order of March 1, 1905, allowing tourist or non-resident owners of motor cars, who have complied with any law requiring the registration of owners of motor cars in the state, territory or federal district of their residence and the registration number showing the initial of such state, territory, etc., to register the description and designation numbers of their motor cars, giving temporary address in the District of Columbia and their home addresses with the secretary of the automobile board, thereby entitling them to operate such registered motor car in the District of Columbia for a period of 60 days, has been very favorably commented on by everyone who has registered."

LONG ISLANDERS' TROUBLE

The Suffolk county, Long Island, authorities having by their withdrawal of the reward to sleuths, ceased their persecution of automobilists, the men who constitute the Islip town board have devised a plan that promises to make some trouble for owners of the horseless vehicle. The town board has adopted a resolution providing that when arrests are made by the deputies and constables the town will pay the cost of prosecution. Since the \$25 reward was taken off by District Attorney Smith, the local sleuths have not been as active, and as a result few, if any, arrests of automobilists have been made. While the town board seems anxious to make life a burden to touring automobilists, it is believed the resolution will not cause any great activity on the part of the deputies, for the reason that there is no incentive for them to make arrests when only the legal fees and costs are paid. With a reward of \$25 for each conviction it was different. So far as is known there have been no flagrant violations of the speed law, and no reason for the town board's action seems to exist.

NEW IERSEY CASE

S. W. Rushmore, of the Rushmore Dynamore Works, of Plainfield, N. J., announces he will take an appeal from the decision of a jury in Justice John Franklin Fort's court at New Brunswick, N. J., which brought in a verdict for \$500 for, as he alleges, the loss of a bicycle, a slightly cut finger and a week's wages of a workman who crashed into the 12-horsepower Packard Mr. Rushmore was driving. It is also asserted by Mr. Rushmore that the justice, in his charge to the jury, said that while "at times the rider of a bicycle or horse-drawn vehicle must cross to the left side to avoid accident or to pass a slower or stationary vehicle going in the same direction, there was no such law permitting an automobile to so pass to the left." It is also claimed by Mr. Rushmore that the justice added that "if you find that the plaintiff was, as he had a perfect legal right to be, on the right side, then you must find for the plaintiff."

As stated by Mr. Rushmore, the facts in the case are as follows: "On May 28 I was driving a 12-horsepower Packard car along Richmond street, Plainfield. The street was obstructed on the right side and a large, slowly-moving truck on the car tracks in the center made it necessary for me to pass to the left. As I was turning to the right side again I saw two bicycles coming toward me and I signaled with my horn. Both riders looked up and the first rider, becoming confused, turned to his left. I quickly turned to the left again and safely passed the first rider. The second rider, thinking I had continued, passed over to the right and kept on at top speed. He had his head down and was looking backward at a lot of men who had just been paid off at the Scott Press Works and were calling to him. I signaled again and noting that a collision was inevitable, I jammed on brakes and threw the car to the right, stopping in its own length and directly at right angles to the street. After the car came to a full stop the wheelman ran head-on into the side of the rear wheel. He was thrown off and his wheel smashed. He got into the car with me and I took him to the doctor's office. His finger had been cut on the steel fender and I tied it up with my handkerchief. After leaving him at the doctor's I went to the man's house and explained the accident to his wife. I did not admit any responsibility, but recognizing the man as one who had worked at my shop, I offered to repair his wheel and pay his wages while his hand was disabled. The man was back to work in a few days and brought suit for \$1,000."

KANSAS CITY LAW INVALID

In Kansas City, Mo., the city ordinance regulating the speed of automobiles and providing various regulations concerning them and providing for the examination and licensing of automobile operators, has been declared unconstitutional by Judge Brumback of the circuit court, and a temporary injunction issued enjoining the city authorities from enforcing it.

Another city ordinance, providing for the taxing of automobiles, was declared constitutional, and it will be enforced. The validity of both ordinances was attacked by the Kansas City Automobile Club, and an injunction was asked to prevent the enforcement of them. The taxing ordinance was attacked because the charter provides for the city taxation of carriages and vehicles, but does not mention automobiles. Judge Brumback held that automobiles might fairly be considered to be included in the word "carriages" in the charter, as no mention of motive power was made in the charter.

Judge Brumback held that certain provisions in the other ordinance were unreasonable, oppressive and unconstitutional, in not affording equal protection in law, but, he held, the city had authority to pass an ordinance that would regulate automobiles, and that would be constitutional. That feature which provided for

the examining of operators was unjust, because the board of licensing examiners was not composed of persons having any skill to judge of the qualifications of operators, and for the further reason that the ordinance does not distinguish between the operators of steam, gasoline or electric machines. The opinion of Judge Brumback says:

"The examination provided for does not distinguish between them and the board may require a person desiring to operate an electric automobile to pass an examination upon a steam engine, or vice versa, as but one kind of license is provided for, and another person who, by the favoritism of the board, may be examined upon an electric automobile, which requires simply knowledge enough to steer it, may, by virtue of his license, run a high-power, dangerous machine of another character. I cannot regard any such arrangement as affording any reasonable protection what-

ever to the public.

"I cannot agree with the contention of counsel for plaintiff that the city has no power to require operators to qualify. I consider it plainly apparent that high-power and high-pressure vehicles operated by the dangerous agencies of gasoline and steam or high-speed vehicles operated by electricity are sources of danger in the hands of persons not properly trained and that skill and experience may properly be required of operators thereof."

About the provision which requires the

operator of an automobile to stop when demanded by the driver of a horse the court said

"It makes a person lawfully entitled to the use of a highway subject without appeal to the whim and caprice of some other person."

The court says further:

"The provision of the ordinance that upon any accident happening it shall be the duty of the operator of the automobile to come to a full stop and give the owner or person injured or persons in charge of the vehicle a card with his name, license and number written thereon, appears to me to be a plain attempt to make a person a witness against himself, and is therefore unconstitutional."

CALLS ILLINOIS LAW O. K.

The supreme court of Illinois has ruled that the statute passed in 1903 is valid. It provides that a speed not to exceed 15 miles an hour may be taken on the country roads. The statute further provides that it is the duty of the motorist to bring his machine to a full stop on approaching a horse or team that shows signs of fright. The case that was passed on by the supreme court went up from Mercer county. A team of mules was frightened and dumped the occupants of the buggy. The owner of the mules was hurt somewhat and he sued for damages, getting a verdict of \$1,250. The automobile was not brought to a stop in that case. The

case is Christy versus Elliott and appears in the Northeastern Reporter, volume 74, page 1035. All possible questions touching the constitutionality of the statute were raised. The supreme court goes exhaustively into the case and firmly upholds the statute in every particular. The court holds that not only must a driver bring his car to a stop on the roads when a horse frightens, but he must use diligence in discovering whether or not a horse frightens. The reasonableness of the statute is supported under the police power of the state. It was claimed this statute amounted to class legislation, being something that was aimed only at owners of automobiles. The court utterly refused to take any serious interest in that contention. The same statute further provides that a driver may be fined and imprisoned in the county jail for running to exceed 15 miles an hour, or for failure to bring his machine to a stop when a horse frightens.

MOTORPHOBIST SETTLES

The much talked of case at Racine, Wis., in which Ernest Kell, a Caledonia farmer, was fined \$25 and costs for assaulting Sam Hanson, chauffeur for Dr. C. I. Shoop, with a pitchfork and afterwards made the defendant in a \$1,000 damage suit brought by the injured man, has been settled by Kell's paying Hanson \$100 and the costs of the case, no inconsiderable amount. The assault aroused the ire of motorists.

BRIEF BUSINESS ANNOUNCEMENTS

Nashua, N. H .- H. C. Lintott has the agency for the Reo cars.

Portland, Ore.—Ballou & Wright, 86 Sixth street, have been appointed local agents for Morgan & Wright.

Peoria, Ill.—Work has begun on the buildings of the Illinois Automobile and Parts Co., at the corner of Main and Globe streets.

Youngstown, O.—Walter P. Flynn, a manufacturer of automobiles here, recently visited Bay City, Mich., in search of a site for a new factory.

Detroit, Mich.—Benjamin Webster, formerly of Boston, has opened an exchange at 251 Jefferson avenue and will handle the Welch. He will also conduct a repair shop.

Evansville, Ind.—The Windsor Motor Car Co. has been organized here for the purpose of manufacturing automobiles. Evansville and Chicago capital is interested in the plan.

Pittsburg, Pa.—The Hardy Automobile Co. is closing out all its machines at its garage at 529 Second street, Allegheny, where it has been handling medium classed cars the past year.

Fort Worth, Tex.—A. B. Wharton and W. W. Sloan, Jr., are soliciting support for a garage here, it being proposed that the new company buy out the business of the Wharton and Childress garages.

Springfield, Ill.—The new garage of the Quincy Automobile Co. will be built on South Fourth street, just opposite the woolen mills and will be 60 by 175 feet and one story high.

Madison, Wis.—The E. W. Arbogast Motor Co., of Wausau, has filed a resolution of dissolution.



LATE INCORPORATIONS

Boston, Mass.—The Greendale Gas Engine Co., of Worcester, has been incorporated with a capital stock of \$15,000.

Boston, Mass.—The Teele Automobile Supply Co. has been incorporated with a capital stock of \$10,000.

Albany, N. Y.—The Auto Exchange of Albany has been incorporated to manufacture and deal in automobiles. Capital stock, \$5,000.

and deal in automobiles. Capital stock, \$5,000.

Waco, Tex.—The Waco Auto & Electric Co., of Waco, has been organized with a capital stock of \$5,000.

Cleveland, O.—The Standard Automobile

Co., of Cleveland, has been incorporated for the purpose of manufacturing automobiles. The capital stock will be \$10,000. New York—The Automobile Buyers' Asso-

New York—The Automobile Buyers' Association, of New York city, has been incorporated with a capital stock of \$10,000. New York—The Austin-Carmack Engine

New York—The Austin-Carmack Engine Co., of New York city, has been incorporated with a capital stock of \$5,000.

New York—The Hudson Automobile Co., of New York city, has been incorporated with a capital stock of \$5,000, to manufacture and deal in automobiles.

deal in automobiles.

New York—The Central Park Automobile
Storage Co., of New York city, has been incorporated with a capital stock of \$40,000.
The company is to engage in the storage of
automobiles and other vehicles, and will conduct a garage.

Lansing, Mich.—Articles of incorporation have been filed by the Auto Lorgnette Co., a corporation established for the purpose of manufacturing and selling face protectors and other goods. The capital stock is \$3,000. The stockholders are John H. Himes, Augustin Hendricks and Gertrude Hendricks.

Buffalo, N. Y.—The Kilgore Automobile Air Cushion Co. has removed to 46 Columbus avenue, Boston, which is now to be the main office of the company.

New York—Underhill & Mathews have leased 1843 Broadway for Peter Vogel to the St. Louis Auto Car Co., which will use the premises as a garage.

Boston, Mass.—Allen G. Stillman, formerly with the Pope company, has become associated with J. H. McAlman in the local branch of the Locomobile company.

Springfield, O.—The King Mfg. & Garage Co., recently incorporated, is looking for new quarters. The company is engaged in the manufacture of automobile tops.

San Francisco, Cal.—The Chanslor & Lyon Motor Supply Co. has opened here a branch of its Los Angeles establishment and will carry a full line of parts and accessories.

Pittsburg, Pa.—A permit has been granted by the building department to the Pittsburg Motor Vehicle Co. for the erection of a one-story frame factory on Summerlea street to cost \$6,000.

Philadelphia, Pa.—John Draper, one of the potent factors of the old champion Kelly-Draper tandem bicycle team, will in future look after the wholesale business of the Thomas B. Jeffery Co. in Philadelphia.

Boston, Mass.—The Butler Motor Co., of Boylston street, will handle during the coming season the Rapid Vehicle Co.'s commercial vehicle. The company handles the Cleveland and Pierce-Racine.



APPOINTMENTS MADE

The following named members have been added to the list of local consuls: C. J. Lord, Cando, N. D.; Dr. J. R. King, Braddock, Pa.; James E. Glass, Pittsburg, Pa.; Thomas McK. Cook, Pittsburg, Pa.; W. B. Deshon, Pittsburg, Pa.; Henry Wittmer, Pittsburg, Pa.; W. W. Coleman, Swissvale, Pa.; H. E. Grant, Pittsburg, Pa.; D. F. Henry, Pittsburg, Pa.; Cecil Robeson, Albany, N. Y.; J. J. Kirke, Brooklyn, N. Y.; Nelson Hartsell, New York; Mark M. Trebert, Cincinnati, O.; A. R. Browne, Cleveland, O. Of the members above named those residing at Pittsburg, Pa., together with Messrs. Coleman, of Swissvale, and King, of Braddock, are members of the Pittsburg board of consuls,

OFFICIAL HOTELS

The following official hotels have been added to the list recorded at League headquarters. These hotels have been selected from a list recommended by different touring members of the A. M. L. and the secretary is glad at all times to receive information respecting different inns, hotels, restaurants and road houses which bid for the patronage of touring motorists. Such information is always treated in confidence, and the name of the informant is in no case disclosed. Official hotels are not required to allow a discount to A. M. L. members but are under contract to furnish clean, comfortable and hospitable quarters and good service. Failing in this the official appointment is promptly canceled. It is the effort of the league to maintain on its official list only those hotels which are the best in their separate localities. Following are the appointments mentioned: Lakeville, Conn., New Wononsco; Bretton Woods, N. H., Mount Pleasant; Poultney, Vt., Lake-View-in-the-Pines; Northampton, Mass., Norwood; Springfield, O., Bookwalter; Lakeville, Conn., Interlaken Inn; Warren, Mass., Hotel Ramsdell; Palmer, Mass., Converse house, and the New Hotel Burns; New Preston, Conn., Hopkins place; Chicopee, Mass., Columbian hotel; Weekapaug, R. I., Weekapaug inn; Far Rockaway, N. Y., Hotel Manhattan; Lee, Mass., Morgan house; Harvey's Lake, Pa., Rhoads' Lake; Oradell, N. J., Hotel Delford; Springfield, Mass., Worthy and Cooley's; Colebrook, N. H., Monadnock house; Gloucester, Mass., Colonial Arms; Stony Brook, Conn., Three Elms house; Chester, Mass., Riverside inn; Coatesville, Pa., Hotel Taylor; Hackettstown, N. J., Hotel Clarendon; Northampton, Mass., Draper; Boston, Mass., Hotel Victoria; Hackettstown, N. J., American house; Dingman's Ferry,



Pa., High Falls hotel; Islip, N. Y., Islip Lodge; Rockville Center, N. Y., Knicker-Locker. Additions to this list will follow.

STATE DIVISIONS

In the formation of state divisions, under league constitution, each state division will be controlled by a board of officers elected by the members at large and to facilitate the election of representatives each state is divided into separate districts. Pending the time when each state will adopt its own constitution and by-laws a tentative division into districts has been made in several of the most important states and these districts will each embrace several counties. The various districts in each state and the counties comprised in each district will be announced in these columns from week to week, or will be sent by circular announcement to the members in the various states.

The Maine Division—District 1 will comprise the counties of Washington, Hancock, Aroostook, Penobscot, Piscatauquis and Somerset. District 2, counties of Waldo, Knox, Lincoln, Kennebee and Franklin. District 3, counties of Cumberland, Androscoggin, Oxford and York.

The New Hampshire Division—District 1, counties of Coos, Grafton, Carroll, Sullivan, Belknap and Merrimaek. District 2, counties of Strafford, Rockingham, Hillsborough and Cheshire.

The Vermont Division—District 1, counties of Franklin, Orleans, Essex, Lamoille, Chittenden, Caledonia, Grand Isle and Washington. District 2, counties of Addison, Orange, Rutland, Windsor, Bennington and Windham.

The Massachusetts Division—District 1, county of Suffolk; district 2,, county of Essex; district 3, Middlesex; district 4, Norfolk; district 5, counties of Bristol, Plymouth, Barnstable, Dukes and Nantucket; district 6, counties of Worcester and Franklin; district 7, counties of Hampden, Hampshire and Berkshire.

The Rhode Island Division—District 1, county of Providence; district 2, counties of Bristol, Kent, Newport and Washington.

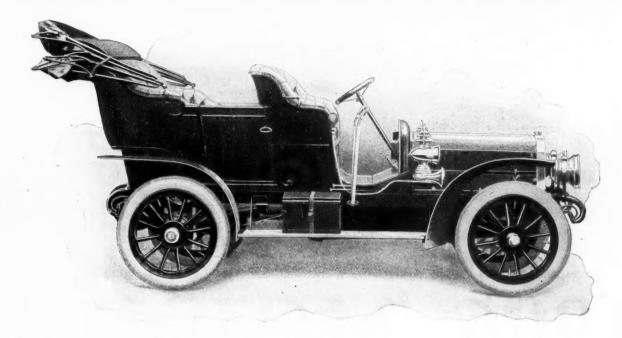
The Connecticut Division—District 1, county of New Haven; district 2, counties of Fairfield and Litchfield; district 3, counties of Hartford and Middlesex; district 4, counties of New London, Tolland and Windham.

The New York Division-District 1, county of New York; district 2, counties of Kings, Queens, Suffolk, Nassau and Richmond; district 3, counties of Westchester, Putnam, Rockland, Orange, Sullivan, Ulster, Greene and Dutchess; district 4, counties of Albany, Schoharie, Schenectady, Montgomery and Fulton; district 5, counties of Rensselaer, Columbia, Washington, Saratoga, Warren, Essex, Clinton, Franklin and Hamilton; district 6, counties of St. Lawrence, Jefferson, Lewis, Herkimer, Oneida, Madison and Otsego; district 7, counties of Delaware, Browne, Tioga, Tompkins, Cayuga, Chenango, Cortland, Onondaga, Chemung, Schuyler, Seneca, Wayne and Oswego; district 8, counties of Steuben, Yates, Ontario, Allegany, Wyoming, Livingston and Cattaraugus; district 9, counties of Monroe, Orleans, Genesee and Niagara; district 10, counties of Erie and Chautauqua.

Further announcements, covering the states of New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Indiana, Michigan, Iowa, Illinois, Wisconsin, Minnesota and Missouri are being prepared and will follow, in these columns, from week to week. When all this work has been completed the league can go ahead in its scheme for the completion of a powerful organization that will work for the good of motoring. The officers of the A. M. L. have received every encouragement in the advancing of their work and it is expected that the board of officers in each division will show an active interest in the work.



MOTMIN



Up-Keep, Flaws in Material, and Safety

No human being, no matter how expert, can tell by looking at a piece of metal whether it has a flaw in its center.

But every flaw is always discovered—sooner or later—when the metal is subjected to strain,

Perhaps you discover the flaw when a break occurs miles from home. That compels you to come back by train, to have the car towed in, and to buy new parts to replace those broken. Three different expense items all at once. And all due to one flaw—perhaps a small one—that the automobile maker didn't know was there.

And there's no telling how often during a season these breaks may occur. But every time they do occur, your expenses increase and your enjoyment decreases. There is no pleasure in using a motor car that eats into your bank account for breakages and is likely at any time to leave you stranded away out in the woods.

But there is pleasure in using the new Winton Model K. And safety, too. No repair bills, no tow home, no coming back on the train because of flaws in material.

Because we do not guess that our material is flawless. We know it. For Winton Model K material is severely tested before we put it into the car.

We use a Riehle Testing Machine that exerts a strain up to 200,000 pounds (100 tons) to the square inch. And any material that withstands our test will never break under lighter strains on the road.

The time to discover flaws in material is before that material gets into a motor car. Not when carrying a load of precious human life.

If you recognize the truth of that statement, your next car will be a Winton Model K, whose material is tried and tested.

Winton Model K—Four cylinder, vertical, water-cooled. 4¾ inch bore, 5 inch stroke. Individual clutch transmission. Winton Air Gover nor. Best systems of lubrication, ignition and carburization. \$2,500 f. o. b. Cleveland. Catalog No. 2 is ready.

THE WINTON MOTOR CARRIAGE CO.

CLEVELAND, OHIO, U. S. A.

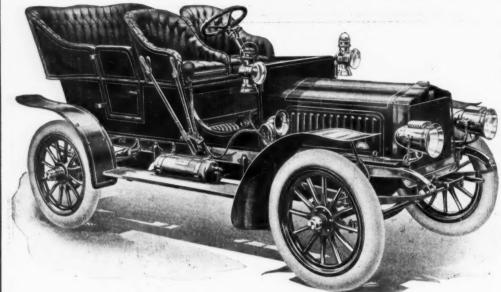
MEMBER A.L.A.M.

Winton Model K Transcontinental Exposition now en route, visiting all the big cities

Don't fail to see it

MITCHELL

"THE CAR YOU OUGHT TO HAVE AT THE PRICE YOU OUGHT TO PAY"



Model 4 B.

4-cylinder vertical motor. 18-20 H. P. actual.

No radical features, just a good, substantial, common sense and thoroughly tried out car that has made good in every particular.

Embodies the best features of the most famous cars—but is vastly different in at least one essential—price.

Correspondence with hustling dealers in each city solicited. We have commenced deliveries on

1906 MODELS

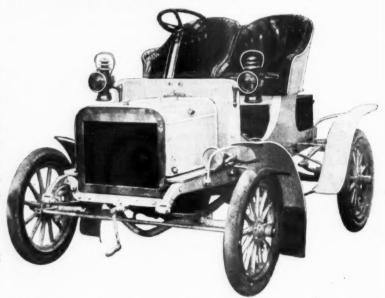
Considerably improved in appearance, and several valuable features added, but no pronounced changes in the construction of either model, as the success of both has been too decided to warrant it.

Model 2 B.

2-cylinder vertical motor, mounted in front.

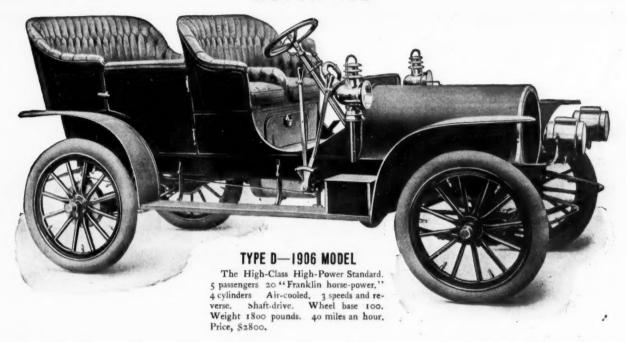
No car at any price surpasses this magnificent Runabout in style, smartness of appearance or up-to-dateness. It is as carefully designed as any \$3000 or \$4000 car in the world, has ample power for every condition of road, climbs hills with perfect ease. Its hill climbing abilities are absolutely dependable.

Write for 1906 catalog—the handsomest ever issued.



MITCHELL MOTOR CAR CO. RACINE, WISCONSIN

Members American Motor Car Manufacturers' Association, Chicago.



"FRANKLIN HORSE"

"What's 'Franklin-power?'"
Horse-power, plus.

"Plus what?"

Many things:—Refinements, construction and design that put every ounce of power to work at the rear wheels; lightness, strength and springs that translate it into high speed and make it available on all roads—safe both for the passengers and the car.

"Franklin horse-power" is the kind that, put into one end of the problem, comes out at the other in a continuous mileage under all sorts of conditions and all through the year—which cannot be approached by cars of anywhere near their power-rating and price, and is seldom surpassed by any cars at any price.

Take the new 1906 Model D car shown above for example: No other car of any rating will carry five people farther, or easier in a day or a year on American roads. No car will carry them for so small an expense both first and last.

Franklin cars are built in every part of the best material for its particular purpose, which can be put into a car, without regard to cost. They cost 50 per cent more per pound to build than any other make of car, but cost far less to maintain and operate.

What they do and the money they do it for, makes them the most economical of all cars.

Four great models for 1906. Send for the book which describes them all.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

Member Association Licensed Automobile Manufacture

NOUNCEMENT

The

30-35 H. P.

Come and inspect, ye automobile experts—you who really appreciate beautiful workmanship and design, and you will admit that at last THE American automobile has come. Look over the following specifications, then call and try the car:

Engine-30-35 H.P., 4-cylinder, water-cooled. Tires-Continental, 34x4.

Ignition - Sims-Bosch Magneto. Make and break spark.

Transmission—Sliding train, 3 forward and

Rear Axle—Bevel gear drive, clutch driven Body—Full aluminum, double side entrance. hub, ball bearings.

Front Axle—I beam section, ball bearings.

Frame—Cold rolled pressed steel, aluminum under-bonnet covering entire engine and transmission.

Wheel Base-104 inches.

Wheels—Imperial whalebone, grade A; 2d growth hickory.

Valves—Mechanically operated, inlet and exhaust interchangeable.

Carbureter-Float feed, requiring no adjustment.

Brakes—Two internal expansion, dust protected. operating on rear hubs through emergency lever holding either forward or backward. Foot brake operates on propeller shaft. Both brakes phosphor bronze against steel.

Equipment—Two headlights, 2 side lights, 1

rear light, 1 horn.

Price, \$4,000

The 22-28 h. p., which was the hit of the season in New York, will be continued as heretofore without any changes. 4-cylinder, 98-inch wheel base, La Coste coil, French battery, Continental tires, aluminum side door body.

Price, \$3,500

Both models guaranteed free of repairs for one year. The world's broadest and most liberal automobile guarantee.

Landaulet bodies for immediate delivery. Limousines for October and November delivery.

RAINIER CON

Broadway, cor. 50th Street

NEW YORK

Boston Agents, Morrison-Tyler Motor Co.

Good agents wanted in unassigned territory.

ANYONE CAN BUY CAST IRON AT TWO OR THREE CENTS
A POUND AND MAKE AS BIG AN ENGINE AS HE HAS A
MIND TO—AN ENGINE SO BIG THAT HE CAN AFFORD TO
LOSE HALF OR THREE-QUARTERS OF HIS POWER BEFORE
IT REACHES THE WHEELS AND STILL HAVE PLENTY LEFT

UT it requires skill and skill of a very rare order to take a car of reasonable size, equipped with an engine of ordinary capacity, and so refine and improve its various parts, eliminating a little friction here and there, proportioning a water jacket or valve passage a little better, trimming a little weight all along the line, stiffening some part that springs and binds a wee bit in operation, reducing things generally to simpler forms, and finally producing a car that not only does all that it is expected to do, but some things that the big car can't do—avoiding tire trouble for instance—turning around in narrow roads, etc.

Now this is just what the designers of the Stevens-Duryea have done—they took the best known type, the most up-to-date car, and beginning where others had left off, they refined it. They decided that a loss of 30 to 50 per cent of the engine power before it reached the wheels was too much; they succeeded in reducing this loss to 10 per cent. They figured that if bicycles and buggies could be made strong without being made heavy, so could an automobile. They believed that lots of the sins charged to tires were really up to the automobile. They took each part and gave its size, weight, and functions careful consideration—some parts they made heavier—some they made lighter—and everywhere they cut down friction. The result—well, there is nothing in this country the size of the STEVENS-DURYEA that can touch it for speed or power on hills—nothing of its size that weighs its weight—nothing in the history of the automobile business that gets so great a mileage out of its tires—nothing that is as easily operated—nothing that will stand as much knock-about work on all sorts of roads with so little repairing.

These results come, not from good material nor good workmanship alone, but from a new, original, patented system of construction which is so far-reaching in its effects that we have given it a very complete exposition in our new booklet. The way these results were secured makes interesting reading and we'll be glad to send you a copy.

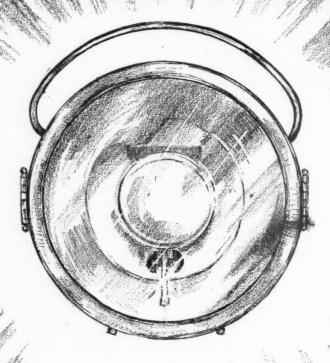
J. STEVENS ARMS & TOOL CO.

Makers of the "Twentieth Century Hustler"

705 Main Street CHICOPEE FALLS, MASS.

Member Association Licensed Automobile Manufacturers.

THE SHADES OF NIGHT ARE FALLING EARLY



THE SOLVING UGHT YOUR WAY

BADGER BRASS MFG. CO., Kenosha, Wis. WRITE FOR BOOKLET OF ASK YOUR SUPPLY MAN NEW YORK OFFICE, 11 WARREN ST.

When Writing to Advertisers, Please Mention Motor Age.

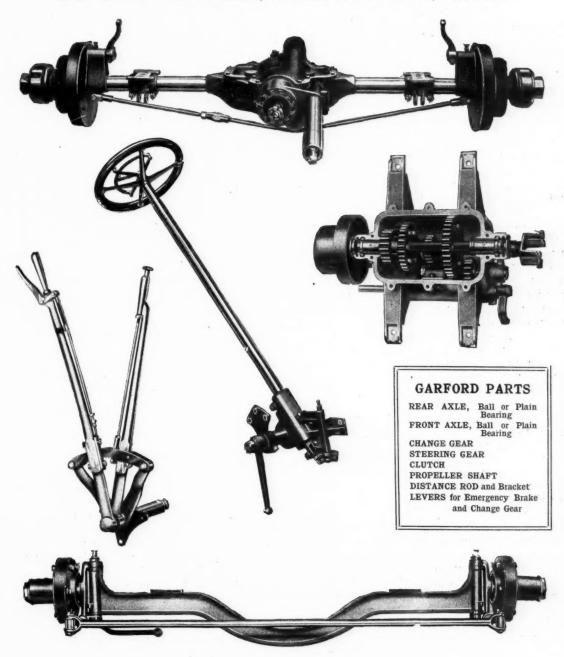
GARFORD TOURING CAR PARTS

We don't wait for customers to test our parts before ascertaining if they are suitable for high grade touring cors. The model cars our engineers operate are given such severe service that the dependability of each piece is known to us in advance. Experiments are conducted at our own expense and risk. Write for Circular No.12.

One size for cars weighing up to 2,400 lbs., and of 30 H.P. Other size for cars weighing up to 2,800 lbs., and of 50 H.P.

The Garford Company—Elyria, Ohio

SALES MANAGER—HAYDEN EAMES, AMERICAN TRUST BUILDING, CLEVELAND





Pope Manufactul HARTFORD

1906 ANNOU

Pope-Hartford, Model F

Four Cylinder 20-25 H. P. Price \$2,500

It is conceded by every one that the POPE MANUFACTURING COMPANY has never had the reputation of making extravagant claims for its product. Generations of special training in the famous Factories of Hartford have developed mechanics who are masters of every feature of fine machine work and with the world's best mechanics and the best talent it is possible to procure we have by experimenting, trying, testing and improving, counting nothing too small to receive attention and nothing too great to be attempted, produced our new MODEL F which cannot be excelled at anywhere near the price for quietness, speed and hill-climbing qualities.

Four-cylinder vertical water cooled engine with all gears encased, the cylinders cast in pairs with integral heads and water jackets, developing under brake test 28-30 H. P. Valves located in the head all mechanically operated and interchangeable. Cylinders and pistons made of special stock and ground to a mirror finish thus insuring perfect compression. Crank shafts of special treated nickel steel with liberal bearings. Crank case supplied with two large hand holes on the right hand side of the case through which every bearing on the crank shaft is accessible.

Ignition Jump spark, combined commutator and secondary distributor located between the second and third cylinders and driven from the cam shaft through a pair of spiral gears with a single coil controlled by a lever located on top of the steering wheel but not revolving with the wheel.

Lubrication of the engine bearings and Lubrication cylinders is from a special oiler located on the dash driven by a belt from the cam shaft. The bearings of the transmission are provided with ring oilers running in individual wells at the ends of the shaft, and the transmission gears, bevel gears and differentials run in oil. (The oiling of these parts is referred to more particularly under their special headings.) All parts of the car not lubricated in this way or by splash are provided with oil or grease cups wherever necessary.

Transmission having three speeds ahead and reverse and is enclosed in an aluminum case with an aluminum cover which is readily removed for inspection purposes. The gears are all made of special steel hardened. The countershaft has three large bearings substantially bolted into the case and without any opening through the ends of the case. All bearings are of special grade phosphor bronze and the gears and bearings with the exception of the front and rear main bearings are immersed in oil, the front and rear bearings being lubricated from two oil wells in the bearing case, the oil being

carried by a ring to the shaft. The gears shift by a hand lever located on the right hand side of the seat, operating through a sector and pinions, a rack on the inside of the gear case being directly connected with the sliding gears, the thrust at this point being taken up by a substantial ball thrust bearing.

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Carburettor

The carburettor is of special design and of our own manufacture, very flexible and efficient running from 150 R.P.M. to 1600 R.P.M. and unrivaled in economy of fuel consumption. Carburettor throttle is controlled by a lever located on top of steering wheel and not revolving with it.

Control Controlling levers for ignition and throttle are located on top of the steering wheel engaging with a single sector arranged so as not to revolve with the steering wheel. All gears changed by one lever located within easy access of the driver.

Drive A compensating joint is located between the engine and transmission, and the drive from the transmission is through a longitudinal or propellor shaft having universal joints at either end through a pinion and bevel gear to the rear axle. These joints are so arranged that all bearing surfaces are thoroughly lubricated at all times. All parts of the joints and shafts are made of special high carbon steel with liberal pins which work in removable phosphor bronze bearings.

Front Axle The front axle is a solid forging of special steel having forked ends to receive the pivots. The axle is of exceptional strength and extremely graceful in design.

Rear Axle

The bevel gears driving the rear axle consist of a pinion being made from special steel, the pinion shaft being made integral with the pinion and runs in two Timkin roller bearings. The rear axles proper or driving shafts have squared ends which fit in square holes in the differential gears insuring strong and durable construction. The shafts are securely keyed and locked at their outer ends in the wheel hubs and do not carry the weight of the car but are solely power transmitters, the case and outer tube of the axle carrying the weight of the car. The thrust of the bevel driving gear is taken up by a large ball thrust bearing suitably backed up by hardened steel washers and supported by the main bearing of the case.

Steering mechanism consists of worm and sector enclosed in a case packed with graphite grease and is strictly irreversible. Steering joints provided with spring buffers to relieve road shocks.

Brakes external clamping band brake faced with camel's hair belting and acting on a drum attached to transmission shaft directly at the rear of the transmission case. The other set consists of two internal band brakes which are also faced with camel's hair belting

When Writing to Advertisers, Please Mention Motor Age.

ring Company



UNCEMENT

and act in drums which are bolted to each rear wheel hub. The brakes are all of ample proportion and of strong and powerful construction, either one of them being capable of locking the wheels with a very slight pressure on the foot levers.

Frame is composed of armoured ash side pieces 1 5-16 by 4 inches at the centre. The armour consists of steel plates 3-16 inch thick securely bolted to the side pieces after all the riveting, which is done hot, is completed. The sub-frame which carries the engine is made of channel steel securely riveted to steel cross members at either end.

Hood and Guards Hood of improved design opening from both sides. Guards of special design, front guard large and flaring.

Body The body is of new and graceful design seating five people, with non-removable dust-proof tonneau with double side entrance especially easy of access.

Dash This is of curved sheet steel reinforced with wood, finished in natural color and surmounted by a brass rail.

WHEEL BASE Wheel base is 98 inches and the tread 56 inches.

Wheels 32x4 front and rear with ball bearings of large dimensions.

Tires We will adopt for our regular equipment what we determine to be the best tire on the market from actual tests we are now making.

GASOLINE CAPACITY 15 gallons.

WATER SUPPLY 5 gallons.

EQUIPMENT Full set of lamps, horn, tools and floor mats.

Pope-Hartford, Model G

Two Cylinder 18 H. P. Price \$1,600

Motor

Two-cylinder horizontal opposed, located cross-wise under the hood with integral heads and water jackets, developing under brake test 20-22 H. P. Automatic admission valve and mechanical exhaust. Cylinders and pistons made of special stock and ground to a mirror finish as in the Model F. Crank shaft of special treated nickel steel with bearings of liberal size.

gnition Jump spark from two sets of dry cell batteries carried under front seat.

Engine bearings and cylinders are lubricated by a special oiler located on dash driven by a belt from the cam shaft. The bearings of the transmission are provided with ring oilers running in individual wells at the ends

of the shafts. The transmission gears, bevel gears and differentials run in oil. In addition to this there are oil and grease cups provided wherever necessary.

Transmission The transmission is of the sliding gear type and identical with the transmission used on our Model F.

Carburettor The carburettor is of entirely new design of the float feed type very simple and very efficient and flexible.

Control Spark and throttle levers located on top of steering wheel. All gears changed by one lever located within easy access of the driver.

Drive The drive is through a longitudinal or propellor shaft having universal joints at either end through pinion and bevel gears to the rear axle.

Front Axle The front axle is a solid forging of special design with forged yokes and exceptionally strong in all its parts.

Rear Axle The rear wheel axle is of solid steel running on ball bearings in a tubular sleeve and of same style and construction as Model F.

Steering Wheel operating through worm and sector. Strictly irreversible, joints provided with spring buffers to relieve road shocks.

Brakes Two sets of brakes, one an external hand brake acting on a drum attached to transmission shaft at rear of transmission case; the other set consists of two internal band brakes acting on drums bolted to each of the rear wheels.

Frame The frame is composed of ash armoured with steel plates securely bolted after all riveting, which is done hot, is completed. The sub-frames and cross members are of steel making a very strong and flexible frame.

Hood and Guards Of improved design constructed of steel, front guard large and flaring.

Body Of graceful design seating five people, double side entrance type with non-detachable tonneau.

WHEEL BASE 88 inch, tread 56 inch.

Wheels $30x3\frac{1}{2}$, front and rear, with ball bearings of large dimension.

Tires We will adopt for our regular equipment what we determine to be the best tire on the market from actual tests we are now making.

GASOLINE CAPACITY 11½ gallons.

WATER SUPPLY 4 gallons.

Equipment Two side oil lamps, two head light brackets, full set of tools and floor mats.

MONOGRAM OILS AND GREASES

Of the Twenty Cars entered in the Vanderbilt Cup Race SIXTEEN, including the Winner, used MONOGRAM OIL

Can we say more?

MANUFACTURED BY

Columbia Lubricants Co. of New York

78 BROAD STREET, NEW YORK CITY

DISTRIBUTING DEPOTS

Boston, Cleveland, Washington, Chicago, Denver, San Francisco, Toronto and London

T H O M A S 1906

A Personal Statement from Mr. E. R. Thomas

"Hitch Your Wagon to A Star"

My friends have long known that it has been my cherished ambition to build the best car in the world or, at the very least, one of the greatest.

I do not mean the fleeting reputation gained by enormous outlays for advertising and the performance of road and racing stunts by highly paid employees with special cars or well groomed individuals of social and business prominence always accompanied by factory experts. But I do mean the permanent reputation founded by actual performance in the hands of the general public which comes solely from intrinsic merit.

Years ago—surrounded by noted mechanical talent—we built one of the greatest bicycles of the world, which was better than any foreign continental production. The principles of automobile construction are the same except mechanical power is substituted for human. Since 1897 I have been building vertical gas engines by the thousands. Then why not at least one of the best automobiles?

I knew that with us it was only a question of design, material and time. It was not a question of experience in fine workmanship. We had that. Nor was it a question of profit for that would surely follow.

In 1904 daylight began to appear. Two cylinder vertical motors were the vogue. I went one better and built three at the same price. It was far superior to any two cylinder proposition on this side of the world or the other.

Design was greatly improved, crude and accessory manufacturers improved their material, the car proved highly efficient and the star we had "hitched to" seemed nearer and brighter. It was in this year that I designed the safety device which has saved lives—also the curved dash with small tool lockers and the chain pull that equalizes the strain on the main bearings. We also used chain oilers on the crank and transmission shafts.

In 1905 we built a four cylinder car which, with nominal advertising, no traveling agents, and no performance of road or racing stunts, requiring special cars and highly paid factory experts, we again caught the public favor and quickly sold four hundred big touring cars—no more and no less. We were compelled to refuse many additional orders, some with bonuses above the price of from \$250 to \$750.

It was in this year I patented the now famous dust proof body and introduced lockers and rails for wraps and many other features of comfort and efficiency.

The result in every way exceeded my most sanguine expectations and the star shone still brighter and was much nearer.

Our success was so great I have about completed a new model fire-proof factory, constructed entirely of concrete, steel reinforced. The mechanical equipment has been greatly increased. The capacity is One Thousand Fifty Horsepower Automobiles per annum.

I have the same superb mechanical force who are inspired by the same ambition and who are co-operating with me loyally and energetically to realize our high ideals and which we believe will be fully realized in the 1906 Thomas Flyer, which has been greatly improved in every detail of workmanship, material and design—notably:

Forged I beam axles—great, strong steering knuckles—steering apparatus all forged—no brazed joints. Cross steering rod behind front axle. Large separate motors. Mechanically operated valves opposite sides. Improved radiator, fan and pumps. A disc clutch that will not slip under any condition when engaged. Four forward speeds—with one Hyatt roller and five Hess Bright bearings. Altogether fifteen Hess Bright ball bearings, one Hyatt roller and two ordinary ball bearings—twenty-one anti-friction bearings in all. A beautiful new dash and body seating five or seven as desired. Four great big wide brakes—the foot alone will stop a loaded car on a twenty-five per cent down grade.

I am very proud of the New 1906 Thomas Flyer—and I believe the American public will be proud of it. The best foreign cars may have some few unimportant details that we haven't got—and we have some important ones they do not possess. But we have put the design, material, workmanship and money into this car to make it at least equal to the highest priced car in the world, and I believe that the verdict of a just people will, based upon intrinsic merit solely, place the 1906 Thomas among the world's greatest and best, and as such I present it.

E. R. THOMAS,

For The E. R. Thomas Motor Company.

E. R. THOMAS MOTOR COMPANY

1202 Niagara Street

Members A. L. A. M.

BUFFALO, N. Y.

THE AUTOMOBILE



HEMERY IN HIS DARRACQ RACER WINNER OF THE VANDERBILT CUP

The Best Car Won The Vanderbilt Cup Race

The same superior qualities of speed and endurance that brought victory to our racer are found in every Darracq automobile.

Our touring cars are the pride of France, as every one knows who has been abroad.

We simply ask your inspection.

Cars ready for immediate delivery.

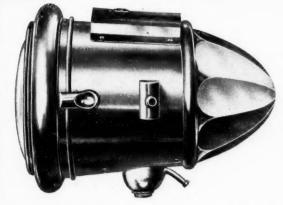
American Darracq Automobile Co.

Controlled by F. A. LaRoche Co.

NEW YORK 652 HUDSON STREET 147 WEST 18th STREET CHICAGO
THE RALPH TEMPLE AUTOMOBILE CO.
309 Michigan Ave.

1906 ATTAMPS & GENERATORS~

No Guesswork about
ATWOOD LAMPS



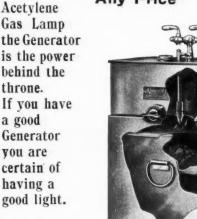
WORKS OF ART

They are the result of 30 years of experience as builders of Good Lamps.

They cost a trifle more than the others, but they are worth the difference.

There is a REPUTATION behind them that stamps them "HIGHEST GRADE."

No Equal at Any Price



Atwood Generators

In an

surpass anything ever heretofore placed upon the market.

Every obstacle has been overcome.

SIMPLE— EFFECTUAL

ATWOOD MFG. Co.

WRITE US

AMESBURY, MASS.

Motor Age Circulation

How Many of Our Esteemed Contemporaries Can Show a Letter as Strong as This?

MILWAUKEE, WIS., Aug. 10, 1905.

Mr. N. H. Van Sicklen, care Motor Age, Chicago, Ill.

Dear Sir:—We shall consider it a great personal favor if you will send us the films taken by your representative of our car, and shall be pleased to pay you for them.

Evidently the Motor Age is extensively read, judging by the number of letters pouring in upon us from people who have seen

your write-up.

Trusting you will be able to favor us, we beg to remain, very truly yours,

By H. Theo. Hansen, Vice President and General Manager.



The above cut represents postoffice receipts for 6,666 pounds net, of issue of October 5, 1905. Each paper, including wrapper, weighed an average of 9½ ounces.

6,666 pounds divided by 9½ ounces equals.

We also sold, non-returnable, to Western News Co. and news stands direct. 11,227 papers 672 Mailed under stamps to foreign addresses..... 89 Retained for office sales and distribution..... 350 Total for week of October 5..... STATEMENTS PREVIOUSLY PUBLISHED. Average weekly edition for July, 11,755-see page 38, August 24 issue.

 August 17, page 42, statement for August 3.
 13,159

 August 24, page 39, statement for August 10.
 12,269

 August 31, page 38, statement for August 17.
 12,176

 September 7, page 29, statement for August 24.
 12,271

 September 14, page 42, statement for August 31.
 12,518

 Average weekly edition for August, 12,468

 September 21, page 32, statement for September 7.
 12,220

 September 28, page 46, statement for September 14.
 13,106

 October 5, page 46, statement for September 21.
 12,283

 October 12, page 52, statement for September 28.
 12,532

 12,220 papers Average September issues, 12,535. Including the above for October 5, 12,238.

MOTOR AGE,

N. N. Van Sicklen



When it does this in your Spark Plug through the Soot Accumulation, your troubles begin.

In the Soot-Froot PLUG

THIS WAS NEVER KNOWN TO HAVE OCCURRED

WHY?

1-32 OF AN INCH.

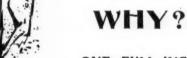
This is the amount

of air space

the current

must overcome

in order to spark.



ONE FULL INCH

of soot deposit.

This is what

the current

must overcome to

short circuit.

But One Full Inch of Soot Deposit Offers More Resistance to the Current Than

1-32 inch of air. Hence the "SOOT-PROOF PLUG" Does Not and Cannot Short Circuit.

1/32 INCH

G. A. MEZGER 203 W. 80th St. NEW YORK

INCH



When you are introduced to the "New Yale" you will take off your hat. We know you will, for our 1906 automobile is an aristocrat in appearance and a Hercules in power. However, if you will not take off your hat on first sight, we'll take you for a ride, and we know you'll take it off then. If you don't, we'll simply open the throttle and blow it off.

We expect to sell our entire output to men who are "from Missouri."

We ourselves have been delighted in the speed and action of our 1906 car and we are no easy ones to please. The "New Yale" had to show us just as it will have to show you and we are ready to talk business.

We have some desirable unoccupied territory and would be pleased to make appointments with established agents to call at our factory, where they will be initiated into the "show me" method. Particulars by letter.

BRIEF SPECIFICATIONS

Wheel base, 104.
Engine, 4-cylinder, water-cooled.
Wheel steer, new control.
Speed on direct drive, 4 to 55 miles per hour.
Wheel, 34x4.

Transmission slide gear. Three speeds forward and reverse.

Pressed steel frame.

Pressed steel sub-frame.

Springs, 2x46 front, 2x54 rear.

Chainless drive.

Write for photographic reproduction of the car.

THE CONSOLIDATED MANUFACTURING CO.

Successors to the Kirk Manufacturing Co.

TOLEDO,

OHIO

Member Association Licensed Automobile Manufacturers.

A RANGY LINE

JACKSONS

THREE MODELS

"C," "D" AND "G"

RANGE OF PRICES \$1250, \$1500, \$2500

RANGE OF POWER FROM 18 TO 40 H. P.

RANGE OF WHEEL BASE 90 " 100 " 108 "

Plenty of Style, Strength and Speed

MODEL C

2 cylinders opposed, $5\,\frac{1}{4}\,''x5\,''$, motor under body, wheel base, 90 inches; chain drive.

Price, \$1250

MODEL D

A new model for 1906. 2 cylinders, 5 ¼ "x5", motor under hood; wheel base, 100 inches. The most powerful shaft drive, two-cylinder car on the American market.

Price, \$1500

MODEL G

40 h. p., 4 cylinder, 5"x5", wheel base, 108 inches. The most magnificently luxurious car of power ever marketed by an American maker.

Price, \$2500

LARGE, ROOMY TONNEAUS TO ALL CARS. FINISHED AND UPHOLSTERED IN THE FINEST POSSIBLE MANNER THROUGHOUT.

A Live Line For Live Dealers : : : : : WRITE

JACKSON AUTOMOBILE CO.

JACKSON, MICH.

"No Sand Too Deep. No Hill Too Steep."

DEALERS

During 1905 we built and sold more than 4,000 Cadillac cars.

Not one purchaser of these cars is willing now to let his "bargain" go at less than the price he paid for it.

For 1906 that name

CADILLAC

will possess more than ever before a magic meaning to live dealers.

There are hundreds of towns in the U. S. where Cadillac cars have never been sold. We want an agent in each of these localities and if you are a good business man, you will at once get in touch with us. No line was ever so attractive as ours will be for 1906.

WRITE TODAY

Cadillac Automobile Co.
Detroit, Mich.

The

HAMMES



Car that Won Honors

from America's best and most powerful special racing cars, in the VANDERBILT Trials, was simply a duplicate of our 1906 Touring Cars now going through the factory.

If THE HAYNES stock car defeats racers, what will it do to other stock cars?

We are booking orders and contracting agencies NOW for these cars.

Write us today.

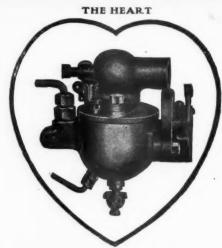
The Haynes Automobile Co.

MEMBERS A. L. A. M.

New York

KOKOMO, INDIANA

Chicago



OF THE AUTOMOBILE

The Schebler Carbureter

Eighty-two automobile and marine engine builders in the United States and Canada have adopted the Schebler. All the carbureter manufacturers in America cannot show this record.

Seven sizes from ½ 11 to 31.

Schebler carbureter with balance throttle to be used with a governor.

Schebler two-cycle engine carbureters.

Schebler Special for Cadillacs.
Oldsmobile carbureters.
Ford two-cylinder carbureters.
Autocar Runabout carbureters.
Franklin Automobile carbureters.
Standard sizes for all other motors.
Special fittings for attaching the
Schebler to above cars.

Agencies in all the principal cities of the world

F. H. WHEELER

Manufacturer and Sales Agent Indianapolis, Ind., U.S.A.

MICHELIN

Another Great Victory

for the famous

Michelin Tires

Vanderbilt Race

Fifty per cent of cars finishing race were on Michelin Tires.

Wonderful record of speed and stability goes to Michelin.

Not a bursted tire on a single car that was equipped with Michelin Tires.

Michelin Tires are the safest and strongest tires in the world, and their superiority is now incontestable.

MICHELIN TIRE AMERICAN AGENCY, Inc.

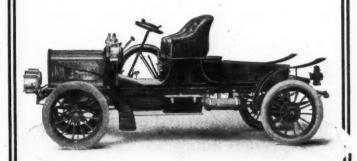
6 West Twenty-Ninth St., NEW YORK

E. D. WINANS, General Manager. Telephones 760-761 Madison Sq. Branches in all large cities of the United States

THE INCOMPARABLE

WHITE

THE CAR FOR SERVICE



THE WHITE RUNABOUT

If seating capacity for two is sufficient for your needs, you would do well to inspect critically the White Runabout. It, of course, possesses all those qualities of simplicity, durability and reliability which have made the White the favorite touring car of this country. In addition, is the increased speed which results from the lessened weight. The price, furthermore, is less than that of our touring car. The White Runabout should certainly appeal strongly to those who wish a stylish, speedy and silent car.

Write for Further Details Regarding Price, Weight, Etc.

WHITE SEWING COMPANY

CLEVELAND, OHIO

G&JIRES

The Strongest Tires Made—because only the best of materials are used in their construction.

The Most Comfortable Tires—because most resilient.

The Most Economical Tires—because, being resilient, they increase the power of the engine, and reduce the consumption of fuel.

The Easiest Tires to Handle—because no tire clamps are used.

Write for Catalog and Tire Manual

G&JIRE CO.

Indianapolis

Boston

Buffalo

Cleveland

Detroit

Chicago

Denver

San Francisco

The Daimler Manufacturing Co.

announces that it is now ready to book orders for the

1906 American Mercedes 40-45

Through our sole ownership for the United States and Canada of all patents, designs and shop drawings of our parent company—THE DAIMLER MOTOREN GESSELSCHAFT, of Unterturkheim, near Canstatt, Germany, we produce the only authorized copy, part for part, of the

1906 Mercedes

All the shop drawings of the 1906 Mercedes, showing the latest changes and advances embodied in this celebrated car, are now in our hands, awaiting your examination.

SAVE THE DUTY

DAIMLER MANUFACTURING COMPANY

973 Steinway Avenue, LONG ISLAND CITY, N. Y. NEW YORK CITY GARAGE, 10 West 60th Street

Business and the Oldsmobile

The development of the Oldsmobile as a public utility has been steady and uninterrupted.

The Oldsmobile Standard Runabout meets the requirements of the business and professional man, the rural delivery carrier, the commercial traveler, and is an indispensable adjunct to modern life.

The Commercial Vehicle has reached the highest development in the Oldsmobile.

You will find in our line the vehicle which most fully meets your requirements, whether for city or country delivery, light trucking, city or rural transportation, depot or park service.

Write us for full information and details. There is big money to be made with our commercial cars and it will pay you to get in the game early.

Ask for Circular 52.

S MOTOR WORKS

Member Association Licensed Automobile Manufacturers

Lansing, Mich., U.S.A.

A few interesting facts regarding the new MODEL D

A Marvel of Simplicity and Mechanical Construction'

Motor—4 cylinders separately east. Mechanically operated valves. Motor accurately balanced and develops up to 36 horsepower under brake test.

Transmission—Sliding gear type, 3 speeds and reverse. Timken roller bearings, dust and oil-proof aluminum case. Gears case-hardened steel forgings, properly cut and cham-

Ignition—Jump spark. Two storage batteries. Coil on dash. Concealed wiring. Special terminals.

Control-In this feature WE LEAD.

Gasoline and spark levers are located directly under the wheel and are operated with the left fingers without taking the hand from the wheel.

Change gear lever works in H slot and is positive, permitting of change speeds without intermediate steps.

Foot brake and clutch treadles.

Emergency brake lever next to change speed lever.

BRAKES-Three powerful ones of large diameter-one on transmission; two on rear wheels-all encased.

Frame-Pressed steel. High carbon hot rolled stock. Deflection impossible.

FRONT AXLE-Special I beam section one piece, with

yokes. Drop forged spindles and arms. **REAR AXLE**—Clutch drive type. Extended hubs on

differential casing running in roller bearings. Driving axle carries no weight. Timken roller bearings in wheels.

Propeller shaft encased in steel tube, which acts as torsion Gears and bearings adjustable.

Springs—Special stock—40-inch front, 50-inch rear, 2-inch wide—all semi-elliptic.

Wheels-Artillery pattern; 32x4 Timken roller bearings throughout.

Tires—Any standard American make.

Body—Large, roomy tonneau, well made throughout.
Capacity five passengers. Same lines as 1905 model.

Finish-Stoddard-Dayton Pearl Gray standard. Other colors to specifications.

Trimming and painting in our own shops. Wheel base 103 inches. Gasoline 15 gallons. Metal grease pan under motor.

Weight 2,100 pounds. Price \$2,250 F. O. B. Dayton, O.

A careful examination of the new Model D will show clearly the proper distribution of metal-which enables us to produce a 2,100-pound machine embodying an exceedingly high factor of safety and with the powerful motor gives 1 horsepower to approximately each 59 pounds dead weight. We have therefore succeeded in keeping the weight down and power up-a feature of the greatest value.

Advance Booklet now ready. Complete and detailed Catalogue later. Few good Agents wanted in unoccupied territory. CHICAGO, McDuffee Auto Company BOSTON, Randliff Motor Car Co. NEW YORK (After November 1st), Stoddard-Dayton Agency, 60th and Broadway

TON MOTOR CAR CO., DAYTON, OHIO



SEARCHLIGHT SWINDLERS

The success of the Rushmore Lens Mirror Searchlight has been so complete that as a matter of course the lantern makers have been compelled to either try to imitate it or go out of business.

A number of them have conspired to keep us out of the automobile shows, have claimed that we do not make the celebrated Rushmore Lens Mirror and that they get their cheap flat lenses from the same place, and have resorted to every contemptible trick to deceive people into buying their trash.

Certain so-called jobbers have tried to push the sale of the imitation lights by issuing lists of what are insinuated to be our prices in comparison with their alleged cheap prices. The statement that we ask the prices quoted is a deliberate and malicious lie. The prices they offer are but

a few cents lower than ours, while the fake lights they offer are by comparison not worth their weight as junk.

Some of the fake jobbers refuse to furnish the Rushmore light when requested to do so on the plea that we cannot make delivery. That statement is likewise a deliberate lie. They offer

to refund your money if not as represented, but you had better hold on to your cash.

We do not ask any money in advance, but will send the Searchlight on ten days' free trial to anyone worthy of credit. The fake jobber can make but 25 per cent to 30 per cent on the Rushmore, while he clears 100 per cent to 200 per cent on the fake lights which he obtains on consignment. Do you wonder that he is willing to cheat you?

Our prices are the lowest for the quality and we ship from stock.

RUSHMORE DYNAMO WORKS, = Plainfield, N. J.



KINGSTON 6 1906 TYPE-KAUTOMATIC GARBURETOR

EASY TO UNDERSTAND EASY TO OPERATE

Fuel controlled entirely by equalizing automatic air valves.

Will increase POWER and CONTROL of any 1905 FORD or OLDS car, or money back.

Positively will not accumulate fuel in, or CLOG LONG INLET PIPES.

Perfectly adapted to gasolene cars, boats, airships and motors for any kind of service.

Built for business by the oldest manufacturers in the business.

OVER 30,000 KINGSTON CARBURETORS IN USE



FOR 1906

BYRNE, KINGSTON & CO.

KOKOMO, INDIANA, U. S. A.

The Hartford Perfected Dunlop Tire

Dear Sirs: -

Paris, July 28, '05.

We have arrived in Paris coming over the Route Nationale from Aix les Bains via Lyons The roads were exceedingly trying, very hard and a lot of "pave" or cobblestones. I had two punctures. These were the only mishaps in 2136 miles and the tires have stood the hard work without showing any other signs of wear and tear. People here consider this a very good record as many of the best foreign tires blow out from the heat. Yours truly.

Walter Hale

Posta1

No. 3.

Watch

for

others

to '

follow.

The Hartford Rubber Works Company,

Hartford, Conn.

The Automobile WASHSTAND-TURNTABLE

It greatly increases the capacity of a garage by saving the space otherwise required for maneuvering cars. It also permits a car to always face the door, thereby avoiding the inconvenience and danger of accident incident to backing it, when the approach is difficult.

The table is of cast-iron supported by a ball-bearing pedestal in center and rollers near its outer edge. It rests in a concrete pit about 12 inches deep, the edges of which are protected by an iron ring or curb as shown.

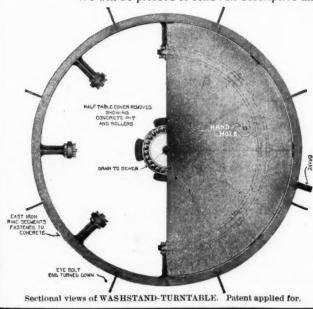
It moves easily, is practically indestructible and is absolutely fire-proof.

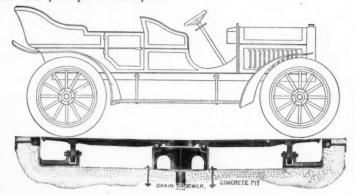
It greatly facilitates the washing of cars, all water from surface of table and garage floor passing to sewer through a drain price in center of pit.

through a drain pipe in center of pit.

We make Washstand-Turntables and also plain turntables (without the washstand feature) for wheel bases

We will be pleased to send full descriptive matter and quote prices on request.





LINK-BELT Machinery Go.

GHIGAGO

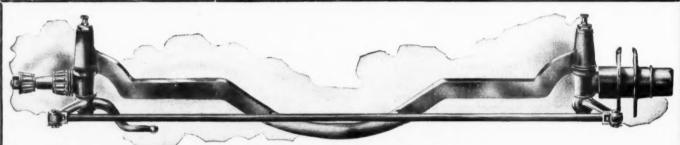
The only set of Tires which finished in the Vanderbilt Race without change or injury or attention of any kind was



on the Locomobile driven by Joseph Tracy

THE DIAMOND RUBBER CO.

AKRON OHIO



Timken-Lemoine Front Axle (Roller Bearing)

TIMKEN Axles and Roller Bearings are simply perfect in principle, design, construction and in operation. They do what others almost do.

That's why they meet the requirements of exacting engineers of the leading automobile manufacturers. They're made a little better than seems necessary—result, they do what others almost do.

We have an efficient hustling corps in our selling organization, on the theory that our business is to assist you to increase your business.

Put the burden of the proof on us, use our axles and bearings and your experience will be that of thousands of others—not a dissatisfied customer.

Write us about it. Direct drive axles, divided and solid rear axles, knuckles, special bearings and cups, wheels and cname! rims.

Timken Roller Bearing Axle Co.

General Office and Works, Canton, Ohio

Are YOU a Ford Agent for 1906?

If not, get the Agency for your territory. It will be worth your while. We do not care to announce particulars about our new models at this early date. There's enough people copying Ford ideas and we want Ford Agents to have an exclusive snap next season.

We can promise you, however, that the Ford proposition for next year will be the biggest money and reputation maker ever offered to an Automobile Agent.

You have heard the rumors about a "Ford runabout," but the most glowing accounts of our car will fall far short of the actual car we have for next year.

Write and get in touch with us.

FORD MOTOR COMPANY :: Detroit, Michigan

Members American Motor Car Manufacturers' Association, Chicago.

Canadian Trade supplied by THE FORD MOTOR CO. OF CANADA, Ltd., Walkerville, Ont.

For short bursts of speed almost any tire lives to see the finish.

For thousands of miles of rough roads



are invariably the choice—because there is enough of the right kind of material in their make-up.

THE CONTINENTAL CAOUTCHOUC CO.

EMIL GROSSMAN, Gen'I Mgr.

43 WARREN ST., NEW YORK

Factory, HANOVER, GERMANY

Glad to Get Back To GOODRICH TIRES

Mr. H C. Baxter of Walpole, N. H., in a letter of September 12, 1905, writes as follows:

"I am glad to get back to the use of your tires, after having satisfied my desire to test a foreign make, which I have found did not give me as good service on our country roads as yours, which I have used for years, have given me. I shall use your make in the future. At present I have a 24 h. p. Peerless, which I am using to make business trips between our canneries in New Hampshire and Vermont."

Yours truly,

H. C. BAXTER.

THE BAILEY "WON'T SLIP"

Regular Goodrich construction, but provided with the Bailey "WON'T SLIP" Tread. Prevents slipping, slewing or skidding.



Rims branded in the channel with this copyrighted mark have been inspected and pronounced perfect. We guarantee our tires only on rims so branded.

The B. F. Goodrich Company Akron, Ohio

NEW YORK, 66-68 Reade St., and 1625 Broadway BUFFALO, 731 Main St. SAN FRANCISCO, 392 Mission St.

CHICAGO, 141 Lake St. BOSTON, 161 Columbus Ave, DETROIT, 80 E. Congress St. LONDON, E. C., 7 Snow Hill.

CLEVELAND, 420 Superior St. PHILADELPHIA, 909 Arch St. DENVER, 1444 Curtis St.

Announcement



Model "G" 10 h.p. Runabout

We want good live Agents in every community

Our '06 line will comprise cars for every purpose.

All our line have beveled gear drive. Are all guaranteed for one year.

List, Model "E" . \$2,000 "G" 650 "F" 1,200 "H" 750

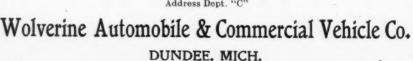
Model "E" 4 cylinder, 4 cycle, 35-40 h. p.

Model "B" 35-40 h.p., 4 cyl., 4 cycle, vertical
"F" 18 " 2 " 4 " horizontal
"G" 10 " 2 " 2 " vertical

"H" 10 " 2 " 2 "

Model "F" 18 h.p. Truck

Address Dept. "C"





Model "II" 10 h.p. Delivery.

Classification Distinctive ... WHY?

The Lightest, the Strongest, Most Durable, Most Efficient, Best Finished. Attractive in Rich Finish and Design, Simply Manipulated.



Absolutely Safe, Perfectly Clean, Best to Ride, Most Economical to Keep. Always Satisfactory. A Carriage Any Lady Can Drive.

THE BAKER ELECTRIC

SEND FOR OUR BK CATALOG

THE BAKER MOTOR VEHICLE CO. Cleveland, Ohio

Chicago Agents: PARDRE-ULLMANN CO., 1218-20 Michigan Avenue, Chicago

PENNSYLVANIA ROCLINCHER

The value of a Tire is measured not by dollars, but by the Odometer.

The Tire which travels furthest without repairs is the most valuable to YOU.

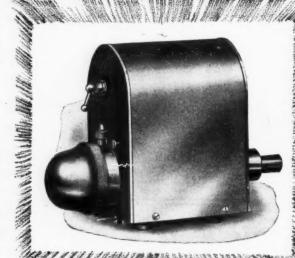
The Tire which carries your Car softly over the road is the most valuable to your MOTOR.

PENNSYLVANIA RUBBER CO. JEANNETTE.PA.

The only American car in the Vanderbilt Cup Race fitted with a Magneto was the

which surely demonstrated the absolute dependability of its ignition system.

Most of the prominent foreign cars are equipped similarly.



Every motorist should equip his car with the

Remy Magneto

BECAUSE, AS A RESULT,

No time is ever lost having storage batteries recharged.

No holdup on country roads through rundown batteries.

No carrying of duplicate dry cells or storage cells.

No complex wiring system.

The Remy Magneto

is simplicity itself. One turn of the starting crank gives the armature sufficient movement to generate the spark. WRITE.

THE COIL THAT DOES THE TRI

In the Climb to the Clouds

Chas. Soules, driving a Pope-Toledo fully equipped Touring Car, made the ascent in 29:37 2-5. This is consid-ered a most wonderful performance. Besides

SPLITDORF COILS

were winners in nearly every event.
Ask the Glidden Tourists how they like the Splitdorf Coll.
Seventy-five per cent of the cars on the tour were equipped with them.

HERE IS DR. PARKER'S LETTER:

Mr. C. F. Splitdorf. June 24th, 1905.
Dear Sir: I feel that in the recent 200 mile contest my success, in a large degree, was due to your coil: It seems to me that your latest is superior to anything in use to date. I tell my automobile friends to give me a SPLITDORF for reliability every time. Very truly, C. B. Parker.

167 Remsen St., Brooklyn, N. Y.

Winner of Recent Economy Test of Long Island Automobile Club

17-27 Vandewater St. NEW YORK CITY

argest and Most Successful Coil Maker in the World.

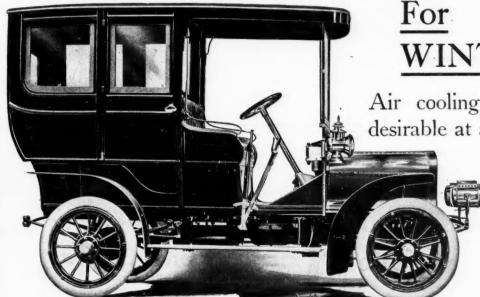


AUTOCAR

RAMBLER CLEVELAND WHITE STEAM CAR GLIDE SANDUSKY RUNABOUT POPE-HARTFORD ST. LOUIS RUNABOUT MARR CAR GROUT STEAM CAR

and all standard makes of cars BRENNAN MFG. CO.

CORBIN CARS



For WINTER USE

Air cooling, which is highly desirable at all seasons, is espec-

ially advantageous when applied to cars for cold weather driving.

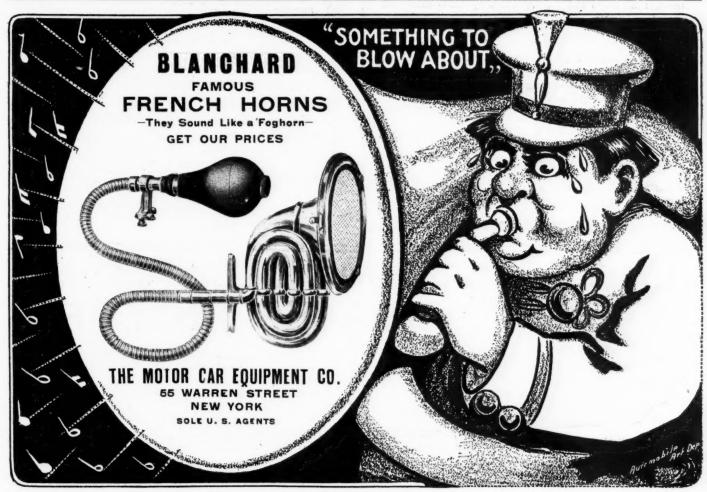
S3,000 to \$3,500

The Corbin Motor Vehicle Corporation NEW BRITAIN, CONN.

NEW YORK, 4 West 38th St.

BOSTON, 163 Columbus Ave.

PHILADELPHIA, 629 North Broad St.



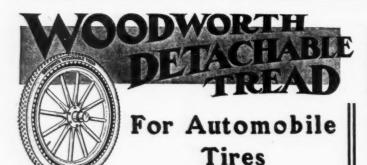
The Locomobile Company of America, Bridgeport, Conn.

Member Association Licensed Automobile Manufacturers.

NEW YORK, Broadway and 76th St. PHILADELPHIA, 249 N. Broad St.

BOSTON, 15 Berkeley St. CHICAGO, 1354 Michigan Ave.





Is the proper equipment for fall and winter use. t prevents slipping and skidding on muddy or icy streets. It also protects the tires from hard, frozen roads. The treads can be put on without removing the tires from the wheels, They are held rigidly on the tires by side-wires which pass through the loops and are tightened by small nuts. No special tools or equipment are required to apply themwith a wrench and a pair of pliers anyone of ordinary ability can do the work.

Can be used on any pneumatic tire, no matter how badly worn, if it is strong enough to stand the air pressure.

You will need something for use for this fall and winter. Why not get the best thing there is?

They are not exorbitant in price.

WRITE FOR CIRCULAR, GIVING DESCRIPTION AND PRICES

LEATHER TIRE GOODS CO. **NEWTON UPPER FALLS. MASSACHUSETTS**

It's a Great Comfort To know that your light will never fail. Your gas cannot fail or ever waver, if you use the PRESTO-LITE GAS TANK

Contains enough pure, cool gas to run two searchlights fifty hours. Recharged in a few minutes for \$2.00. Never leaks, never freezes, never gets out of order. well on any machine and may be attached at rear or side. Supplies any number of lamps. Instantly turned on or

July 28, 1905.

Mr. F. C. Bowlus, 318 Baronne St., City.

Dear Sir:
Referring to your inquiry, would say that the Prest-O-Lite tank has given me no trouble whatsoever since its installation and has proven a great comfort.

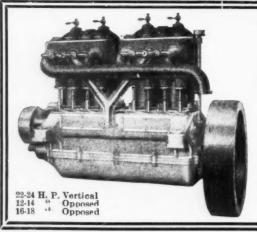
Very respectfully,
New Orleans, La.

DR. C. EDMOND KELLS.

To be had of all dealers. Empty tank exchanged for full one by any dealer.

PREST-O-LITE COMPANY INDIANAPOLIS

AGENTS IN ALL CITIES Exclusive Licensees under patents of the Commercial Acety-TANK RECHARGED AT SMALL EXPENSE BY ANY DEALER Price Complete \$35 lene Co.



DON'T DELAY" PLACING YOUR ORDER FOR BEAVER MOTORS

For your 1906 cars. Efficient, light and durable. Our prices will interest you. Performance and deliveries guaranteed. Correspondence solicited.

BEAVER MFG. CO., Milwaukee, Wis.



Electric Town Carriages

The cut shows the new Columbia Electric Brougham, Mark LXVIII, with Lightened Construction, Pneu-

matic Tires, 5-Speed Control, Special Exide Battery and other improvements. With same Chassis we supply Landaulet, Hansom and Victoria Bodies.

Send for Bulletin No. 75

ELECTRIC VEHICLE COMPANY Members Association Licensed Automobile Manufacturers New York Branch: 134, 136, 138 West 39th St. Chicago Branch: 1413 Michigan Ave. Washington: Washington E. V. Transportation Co., 15th St. and Ohio Ave. Philadelphia: Pennsylvania Electric Vehicle Co., 250 North Broad St. Boston: Columbia Motor Vehicle Co., 74, 76, 78 Stanhope St.

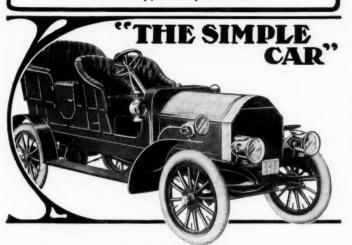
TAS-AU-LEC Compound MOTOR CARS

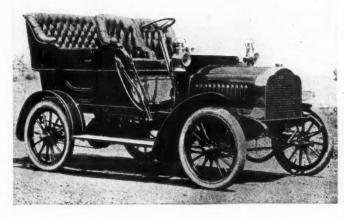
Luxurious in Appointments Built by Skilled Workmen from the best Materials Obtainable

The Simplest Gasolene Car in the World -both as to construction and control, and the easiest to operate and maintain.

"Marks a New Era in Automobile Construction." 40-45 Horse Power, \$5,000

Corwin Manufacturing Company Peabody, Mass., U. S. A.



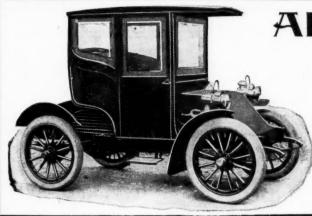


Model Four, \$1,400 HALL BROTHERS

The E. H. V. Co., NORWICH, CONN.,
Middletown. Conn. Sept. 5, 1905.
Gentlemen:—The Compound that I purchased of you last
Spring is giving excellent satisfaction. I have used it considerably cross country touring and find it both reliable and economical. I can cheerfully recommend the Compound to any one desiring a quiet, smooth running car.
Yours respectfully, F. B. HALL.

THE E. H. V. CO.,

MIDDLETOWN, CONNECTICUT



ADAMS-FARWELL

3 Cylinder Motor 5 Cylinder Motor .

20-25 Horsepower 40-45 Horsepower

Operated from rear seat or from folding front seat. All windows may be lowered, making an open car.

Five Other Models - From \$2,000 to \$4,000 No Radiator No Fly-wheel No Fan No Water

Automatically Governed No Muffler

CHICAGO SALESROOM: 1536 MICHIGAN AVE. The Adams Company, Dubuque, Iowa, U. S. A.

Self-starting from the Seat

latheson

"America's Finest Motor Car" 1906 Models-40 and 60 H.P.

MATHESON MOTOR CAR CO. Holyoke, Mass.

Hill Precision Oilers

The first requisite in a mechanical oiler is efficiency. To be efficient, it must possess absolute reliability, and give perfect and unfailing service under all conditions.

The second requisite is economy.

The Hill Precision Oiler combines both of these requisites-and the feature of economy is not confined merely to the saving in oil used, but in cutting out from the repair bill those items that always result from faulty lubrication. Read this:

THE OSCAR LEAR AUTOMOBILE CO.

Automobiles Corner Fourth and Gay Streets

Columbus, Ohio, September 5, 1905.

The Steel Ball Co., Chicago, Ill.

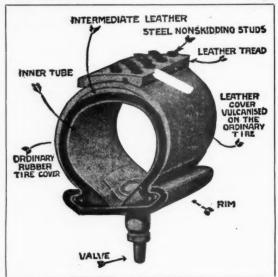
Gentlemen: - We desire to express our sense of the great assistance your Oiler was to us in our recent 6-day endurance and economy run at Long Branch. In a run of 3,202 miles made in a little over 6 days, we only used 10 gallons of oil and your oiler delivered the oil in an unfailing measure as set. Its operation was perfect at all times. The importance of all this we fully realize and its help in getting this record for our EPANER, MILER PROPERTY. car. Yours truly,
THE OSCAR LEAR AUTOMOBILE CO. FRAYER-MILLER car.

STEEL BALL COMPANY

840 Austin Avenue

CHICAGO

NON-SKIDDING :: :: PUNCTURE PROOF



A. E. GALLIEN, Manager UNITED STATES BRANCHES:

New York: 12 West 33d Street Boston: 20 Park Square

Chicago; 1461 Michigan Boulevard Philadelphia: 1120 Chestnut Street

HAVE YOU SEEN THE NEW MECHANICALLY - ATTACHED KOKOMO

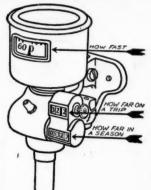


It is just what you have been looking for.

Quickly attached and detached. Creeping and Rim Cutting entirely avoided. Made of the very best material and workmanship throughout. Write us for full particulars.



KOKOMO RUBBER CO., KOKOMO, IND.



AUTO-METER

on a car tells the speed of travel and the distance traveled. It is absolutely accurate.

"Built Like a Chronometer."

When you are whirling along, a glance at the Auto-Meter before you, tells you exactly how fast you are going if your pace be as slow as a fraction of a mile or as fast as 60 miles an hour.

When a trip is finished, the Auto-Meter tells exactly how many miles you have gone on that trip.

When the season is over the Auto-Meter tells exactly how many miles you have covered during the season.

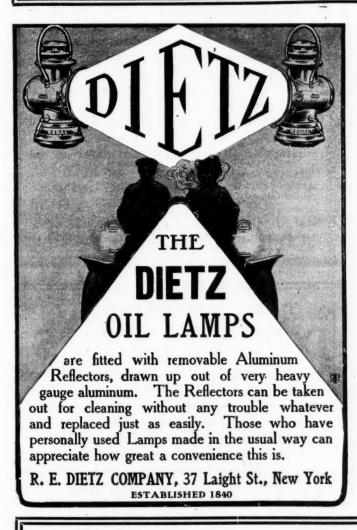
All this is worth while. Is it not?

Get acquainted with the Auto-Meter. It will lead to lasting friendship.

Write for oatalogue and pamphlet, "Indisputable Evidence." The latter gives the interesting experiences of many prominent automobile owners.

WARNER INSTRUMENT CO., 55 Roosevelt Ave., Beloit, Wis.

Warner Instrument Co., 143 Federal St., Boston, Mass.
Warner Instrument Co., 1691 Broadway, New York City, N. Y.
Warner Instrument Co., 1691 Broadway, New York City, N. Y.
Steinway Hall, Chicago, Ill.
Southern California, Heineman & Pearson, Los Angeles, Cal.







CO.

191-193 Mill St.

Rochester, N. Y.

Or Brandenburg Bros & Alliger, 103 Reade St., New York City, 85 Lake St., Chicago, Ill.

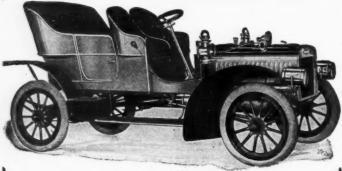
IRREVERSIBLE STEERING BEVEL AND CHAIN DRIVE DIFFERENTIAL MANY SIZES AND MODELS SLIDING GEAR TRANSMISSION

PETERSON & DRAPER, 166 Lake St., Chicago, Ill. THOS. J. WETZEL, 11 Warren St., New York. CHAS. E. MILLER, 97 Reade St., New York.
318-320 No. Broad St., Philadelphia.
202-4 Columbus Ave., Boston.
406 Erie St., Cleveland, O.
Post & Lester Co., Hartford, Conn., Eastern Sales Agts.

ct Factory Salesmen. Sales Agent Carrying Stock.

200 South Geddes Street SYRACUSE, N. Y.

MOLINE



18-20 HORSE POWER

Model "B"-\$1,600

Four cylinder vertical motor that develops more than the rate 1 H. P. Pulls through heavy roads and up hills in a way that surprises the owners of higher-priced cars. Has all the good features of most \$2,000 machines and costs \$1,600.

For the first time this season we can make immediate deliveries

We have only a few of them left and they will go quickly. Perhaps our proposition might interest you.

Model "D"—Our stock of these substantial 12 H. P. Touring Runabouts is decidedly limited. The price we are making is closing them out fast. If you want one, speak quick.

Moline Automobile Company

The Waterless MOSS



Always ready for use and can be used all day long any day in the year.

The Knox Patent Corrugated Pin System of air cooling is the best cooling device extant and the only one that makes

satisfactory all-the-year-round service possible.

Knox 2-cylinder cars give more speed than most 4-cylinder cars of anywhere nearly equal horse power, but cost far less for up-keep and running expenses.

THE KNOX LINE offers the greatest variety of commercial car types, each one a proved success, the result of years of experience in making and selling automobiles for real service.

Catalog of Passenger or Commercial Cars on application.

Agents in All Principal Cities.

KNOX AUTOMOBILE CO., Springfield. Mass.
Largest and Oldest Manufacturers Gasoline Commercial Cars

Members A. L. A. M.

Why Premier Cars

Appeal to All Classes =

To the Professional Man-because of its simplicity.

To the Business Man—because of its readiness to go at all times.

To the Repair Man—because of its perfect accessibility to working parts.

To All Men—because of its low cost of fuel and maintenance.

We have much data from drivers on this latter point; for instance, one writes us: "The total cost of my running this season—5.000 recorded miles—is only a trifle over one cent per mile for the car, or 1.5 to ½ cent.; per mile per passenger; total for repairs, fuel, etc., excepting tires."

These are points to remember when purchasing a car.

The Air Cooled Season never ends.

Side Entrance \$1,500. Runabout \$1,250 Our new [1906] Doctor's Special \$1,425 Light Truck \$1,400

PREMIER MOTOR MFG. CO.

1001 George St., Indianapolis, Ind.

Members American Motor Car Manufacturers' Association, Chicago

DEALERS



THE GALE \$500

Will be a genuine sensation in 1906

Every Up and Doing Dealer knows the value of handling A GOOD CAR at a low price. THE GALE stands alone in its class.

By all means get our proposition to dealers for 1906 ... It will interest you SURE. Address

WESTERN TOOL WORKS
Galesburg, Ill.

The Expected Revolution Has Come

If you can think of a good reason for buying twice the machinery you need in a touring car and paying twice the expense for its upkeep, then you have found the only good reason why you should not buy an



You certainly do not want four cylinders if two cylinders will do the same work and produce the same power-and that is precisely the extraordinary efficiency furnished by the two cycle two cylinder Elmore engine. Understand—the two cycle two cylinder Elmore engine produces two impulses every time the flywheel turns. As you know, the two cylinder four cycle furnishes only one impulse every fourth time the flywheel turns. In other words, the revolution which you have been expecting in automobile construction has come-and the perfect engine is here.

You'll realize quick as a flash when you look into the matter that the two cycle engine is a giant stride in advance—and that to cling to the four cycle in the face of the two cycle triumph is to take a step backward. Lose no time in finding out all about this remarkable mechanical achievement. Send for the technical description, stories of the conclusive tests, opinions of agents and users-the history of a tremendous success which has reached its climax this season after five years of steady improvement.

THE ELMORE MFG. CO.,

804 Amanda Street CLYDE, OHIO

National Motor Cars

In two new models improved and better than ever will be ready very shortly.

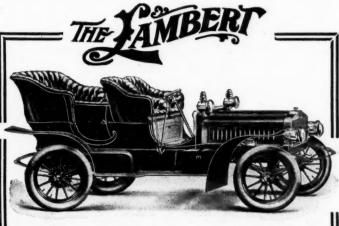
We have a surprise to offer which will make EVERYBODY

"Watch for the Round Radiator"

National Motor Vehicle Co.

1006 East 22d Street INDIANAPOLIS, IND.

Members American Motor Car Manufacturers' Association, Chicago,



Model 7. 28-52 h. p., \$2,000

h.p. Rynabout



The most powerful machine on the market, 1906 model. Write for specifi-

Our Noiseless Transmission

cations.

The Buckeye Mfg. Co. ANDERSON, IND.

MEMBERS AMERICAN MOTOR CAR MANUFACTURERS' ASSOCIATION, CHICA GO



PORTABLE

MADE ENTIRELY OF STEEL

Protects your car and your property.

Affords a SAFE and HANDY place in which to keep your auto-

mobile, SUMMER and WINTER, when not in use.

DOES NOT CONFLICT WITH FIRE ORDINANCES.

DOES NOT BECOME A PART OF THE REAL ESTATE.

Easily erected by unskilled labor and can be moved as often as desired. By keeping your car at home instead of at a garage (more or less distant from your residence), you are assured that no unauthorized person uses your car, unknown to you.

We make all styles and sizes. Send for catalogue of prices, illustrations and complete particulars. Address

The Lloyd Iron Roofing & Paint Co 107 West Monroe St. :: Chicago, Ill.



1906 SHAPE

WE EQUIP Pleasure Cars AS WELL AS Commercial Cars WITH



WHICH ARE ABSOLUTELY SATISFACTORY UNDER ALL CONDITIONS

Write for Experiences of Others as Given in Catalog A

Swinehart Clincher Tire & Rubber Co. AKRON, OHIO

New York City, 1773 Broadway

Chicago, 1208 Michigan Boulevard

atest European Novelties

RACING CAR No. 13878

We are now importing a complete line of Mechanical Automobiles, including side entrance and rear entrance Touring Cars, Runabouts, Racing Cars, etc., which are mechanically operated with clock work and spring. Catalogue mailed on repuest.





AUTOMOBILE **IEWELRY**

We are now handling a line of Automobile Jewelry, consisting of watch charms, watch fobs, ladies' hat pins; in sterling silver and rolled gold plate, designed and copied from automobiles and automobile parts, such as lamps, horns, wheels, etc.

Catalog mailed on request.

CHARLES E. MILLER

Manufacturer, Jobber, Exporter and Importer

Home Office, 97-99-101 Reade St., New York City

BRANCHES
Broadway and 36th St., New York 318-320 N. Broad St., Philadelphia 202-204 Columbus Av., Boston, Mass. 406 Eric St., Cleveland, Ohio

Pressed Steel Frames

AND STANDARD PARTS

Automobile Manufacturers using our pressed steel frames on their machines are always certain that they have the best of frames procurable in point of reliability. We have recently increased our capacity and are equipped to turn out our standard frames, or frames of special design, in quantities for early delivery. We have presses also for making heaving stampings and pressings of all descriptions and are prepared to do any work in this line. We also make a complete line of

Rear Axles, Front Axles, Clutches, Change-Gears, Propeller Shafts, Steering Columns, Hubs and Other Automobile Parts

A. O. SMITH COMPANY

MILWAUKEE, WISCONSIN

Hayden Eames, Sales Manager, American Trust Bldg. Cleveland, O.

One Pound Can 10c

Invaluable for ALL Cleaning Purposes About a Garage

25 Pound Pail \$1.15

31/2 Pound Pail 25c

Pound

Pail

75c

Nothing can compare with it for cleaning and polishing the highly finished surfaces of an automobile

Pound Tub \$2.50

60

CONTAINS NO LYE. Made of Strictly Pure Vegetable Oils. ABSOLUTELY A PURE SOAP 15

The Pure Oils of which it is made are beneficial to the skin, and keep the hands in good condition.

in Barrels

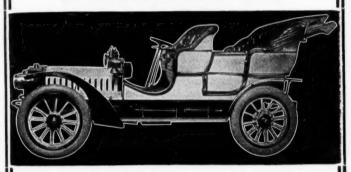
Or.

TRY IT TO-DAY

HOFFHEIMER SOAP CO. CHICAGO

AUSTI

A LUXURIOUS CAR

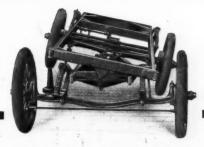


THAT LOOKS THE PART

Four-cylinder, 5 1-2 in. bore, 5 in. stroke, 50 h. p., weight 2,500 lbs., price \$3,500. Full Extension Top, \$150.00 extra. 108 inch wheel base, 36 inch wheels, 4 1-2 inch tires, 44 1-2 inch rear seat. Bevel gear drive, direct on high speed. Our new sliding gear transmission has four forward speeds. ... Write for complete description.

AUSTIN AUTOMOBILE

Rear Wheel Raised Over a Foot



Lower Frame Level

Master of All Roads

No car fits this description unless it makes good its claims on rough roads. The only car that takes you over the roughest roads at good speed with a very luxury of motion and without incurring undue friction and binding strains in the mechanism is

"A Mechanical Masterbiece"

It is the only car that is not built on the unvielding principles of a log wagon, and the picture illustrates the flexibility that places it in a class by itself, due primarily to the exclusive, pat-

Double Three-Point Suspension

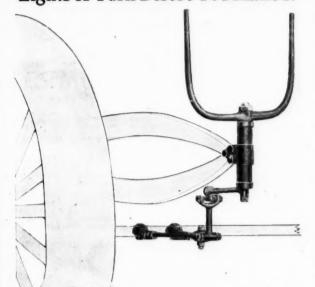
Cast aluminum body on one frame, power plant on another frame, each frame suspended on three pivotal points. No matter which wheels are raised, no matter which frame is tilted, the entire mechanism is maintained in perfect alignment, free from the twisting and binding strains inevitable in all other cars. Means greater efficiency and less wear on all parts, tires included. Four cylinders, air-cooled.

A carefully constructed, luxurious car for those buyers who exact the best of the high-grade. :: :: :: WRITE FOR BOOKLET NO. 1.

NORDYKE @ MARMON COMPANY, Indianapolis, Ind.

Members American Motor Car Mnfs. Assn., Chicago (Established 1851)

"Lights A Turn Before You Make It"



THE IMPERIAL-LYON Automatic Lamp Adjuster

Connected to and operated by the steering knuckle rod. Makes the lamp move with the wheels.
Lights a turn before the body of the car swings around.
Lessens the dangers of night riding.
Will fit any make of car; will carry any make of lamp.
Handsomely finished in solid brass.

Let us send you a descriptive circular and price. Write today.

IMPERIAL BRASS MFG. CO. 249 S. Jefferson St. Chicago

Automobile Lamp **Manufacturers**



It is easy to avoid trouble-simply in-

sist upon licensed

J.v.S. PATENTED

burners.

WHO USE

Licensed Burners Only

Atwood Manufacturing Co., Amesbury, Mass. Badger Brass Mfg. Co. (Solar). Kenosha,

Commercial Acetylene Co., New York City.

R. E. Dietz Co., New York City, N. Y.

A. H. Funke, New York City, N. Y.

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Manhattan Lamp Works, New York City, N. Y.

Motor Car Equipment Co., New York City, N. Y.

New York Coach & Auto Lamp Co., New York City, N. Y.

Rose Mfg. Co., Philadelphia, Pa

Scoville & Peck Co., New Haven, Conn.

Also all Auto Supply Houses.

The Von Schwarz Burners are, with the exception of the Crescents, the only licensed burners.

Von Schwarz Burners

On Label: Von Schwarz and patent number. On Steatite: J. v. S. On Pillar: J. v. S.

M. K. & Co. Pat. Aug. 31, '97.

"Noiseless and Dustless"



7 h. p. Runabout 18 h. p. Side Entrance Touring Car Limousine

Investigate our claim for QUIETNESS—you will find that the Silent Northern surpasses in this respect. It is QUIETER than the finest electric.

Investigate our claim for EASY RIDING—four full elliptic springs and scientific distribution of weight which includes placing of all mechanism under the front hood, insure a freedom from vibration such as you can have no conception of until you ride in a Silent Northern.

There are other features embracing our THREE POINT MOTOR support and encased mechanism which reduce the cost of maintenance to the minimum. Send for our complete Catalogue 14 which explains in detail.

NORTHERN MFG. CO. DETROIT, U.S.A.

Members Association Licensed Automobile Manufacturers.

Peter Fogarty, 142 W. 38th St., New York City Agent.

Third in Elimination Race September Twenty-third

If You Build A Racin' Car

to run 60, 70 or even 80 miles an hour, you won't need any extraordinary mechanical ability. won't produce much that is of value if you succeed.

if you become the owner of a Royal Tourist, you have a car that can go fast enough to qualify in the Vanderbilt Cup Trials, and make the round of the course any number of times without the troubles the racing cars had, and one that will stay on the road, carry its passengers with comfort and safety, do its work quietly, and without strain on the motor or running gear.

REMEMBER

The Royal proved itself faster than the racers, and any owner will tell you about its reliability and comfort.

THE ROYAL MOTOR CAR CO. .:. Cleveland, Ohio

C. A. Duerr & Co., 58th and Broadway, New York G. J. Dunham, 182 Columbus Ave., Boston The McDuffee Automobile Co., 1449 Mich. Av., Chicago G.W. Caplin, 424 So. Flfth Street, Minneapolis Automobile SupplyCo.Lim.,24 Temperance St., Toronto Motor Shop, 317 N. Broad St., Philadelphia Westminster Automobile Co., 4396 Olive St., St. Louis.

WANTED

Manufacturing concern having recently purchased large commercial motor vehicle works, is preparing to extend operations on a greatly enlarged scale for 1906, and wants

CAPABLE REPRESENTATIVES FOR EASTERN TERRITORY

OFFICE MANAGER

(Must be proficient in double entry book-keeping)

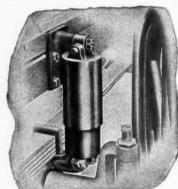
EXPERIENCED CORRESPONDENCE MAN

SUITABLE REPRESENTATIVE FOR FOREIGN TRIP

All departmental heads and prominent attachees must become financially identified with the business.

Address= OF MOTOR AGE, CHICAGO

GOODBYE



PATENT ALLOWED. See illustrated description in Motor Age

BUMPS SHOCKS of every nature

NO Bumping Axles, Broken Springs, Disarranged Motor and Machinery, Telescoped Spines.

SAVES Tires, Springs, Motor and Transmission, Repairs, Oil, Gasoline, Perspiration.

Automobile Air Cushion

SHOCK ELIMINATOR

Permits the use of Flexible Springs on your car and a good steady speed over roads as they come. An investment paying 50% to 500% in cash and large dividends in comfort. Good agents wanted everywhere.

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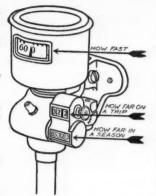
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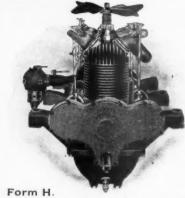
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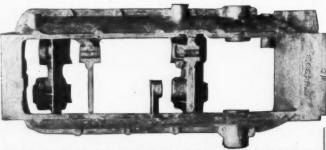
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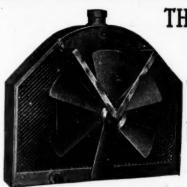
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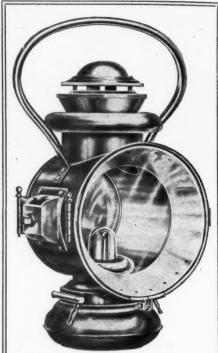
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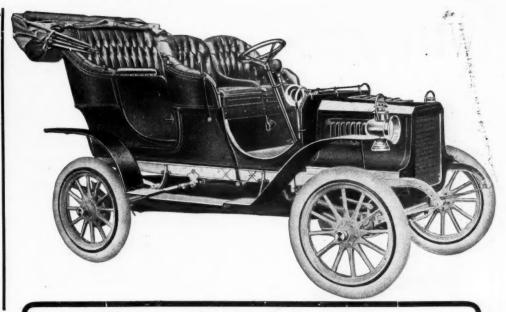
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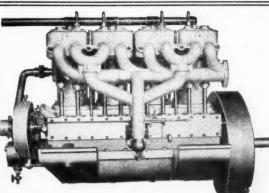
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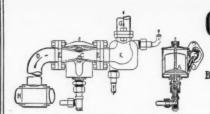
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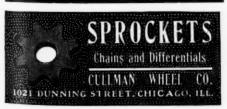
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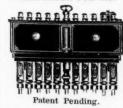
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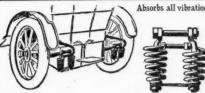


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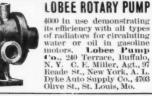
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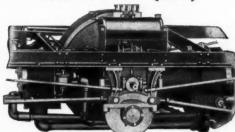
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